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1. [Bee-Trade.com & Partners Sign Ten Year, US\\$6 Billion Agreement With The U.S. Government](#)  
Canada NewsWire. Ottawa: Aug 30, 2000. p. 1

[Full text](#) [Abstract](#)

2. [Wireless Payment Gateway Service from Atomic Software](#)  
Business Editors and Technology Writers. Business Wire. New York: Aug 24, 2000. p. 1

[Full text](#) [Abstract](#)

3. [U.S. Wireless Data Hires Three Key Executives](#)  
Business & High Tech Editors. Business Wire. New York: Jun 20, 2000. p. 1

[Full text](#) [Abstract](#)

4. [NORTEL NETWORKS: Nortel Networks and HP form strategic alliance to build wireless Internet and deliver mobile e-services; Alliance to deliver all-in-one network solutions that equip businesses and consumers across the globe with anytime, anywhere Internet connections](#)  
M2. Jun 20, 2000. p. 1

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5. [Nortel Networks and HP Form Strategic Alliance to Build Wireless Internet and Deliver Mobile E-services](#)  
Canada NewsWire. Ottawa: Jun 19, 2000. p. 1

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6. [Nortel Networks and HP Form Strategic Alliance to Build Wireless Internet and Deliver Mobile E-services](#)  
PR Newswire. New York: Jun 19, 2000. p. 1

[Full text](#) [Abstract](#)

7. [Clareon Corp. Announces Partnerships With BBN Technologies and Digital Signature Trust; Partnerships Will Ensure Security for Clareon Customers' Web-based Transactions](#)  
Business/Technology Editors. Business Wire. New York: Jun 5, 2000. p. 1

[Full text](#) [Abstract](#)

8. **Make That Date With Mobile Data - Motorola's World-First Demonstration of e-Commerce Using WAP Over a Live GPRS Network is Just the Ticket**  
*Business Editors, Telecommunications Writers. Business Wire.* New York: May 10, 2000. p. 1  
Full text      Abstract

9. **German Providers Spend Big On GSM Spectrum For Advanced Services**  
*Communications Today.* Potomac: Oct 29, 1999. Vol. 5, Iss. 211; p. 1  
Full text      Abstract

10. **GERMAN REGULATOR ALLOCATES ADDITIONAL GSM-1800 SPECTRUM**  
*Wireless Today.* Potomac: Oct 28, 1999. Vol. 3, Iss. 209; p. 1  
Full text      Abstract

11. **U.S. Wireless Data Receives FCC Approval for its High-Speed Wireless Modem**  
*PR Newswire.* New York: Feb 25, 1999. p. 1  
Full text      Abstract

12. **Consortium Banks on IRE for Secure Internet-Based Electronic Checking**  
*PR Newswire.* New York: Jun 30, 1998. p. 1  
Full text      Abstract

13. **Internet billing starts ticking**  
*Frank Barbutta. Telephony.* Chicago: Jun 22, 1998. Vol. 234, Iss. 25; p. 20 (6 pages)  
Text+Graphics      Full Text - PDF      Abstract

14. **MASTERCARD SAYS ACQUIRERS WILL BENEFIT FROM VPN DEAL WITH AT&T**  
*Card News.* Potomac: Nov 24, 1997. Vol. 12, Iss. 23; p. 1  
Full text      Abstract

15. **EPS' Bottom Line: Time Is Money – ISDN migration for financial transactions is paying off in both time savings and increased earnings**  
*Amy Rogers. CommunicationsWeek.* Jul 14, 1997. p. 43  
Full text      Abstract

16. **Firms Use Wireless to Improve Service**  
*Eckerson, Wayne. Network World.* Framingham: Apr 20, 1992. Vol. 9, Iss. 16; p. 31 (2 pages)  
Full text      Full Text - PDF      Abstract

17. **EDI: boosting EDI trading partner enrollment: a win/win situation**  
*Anonymous. Corporate EFT Report.* Potomac: Apr 8, 1992. Vol. 12, Iss. 7; p. 3  
Abstract

18. **The Coming of Electronic Clearing Houses**  
*O'Connor, David A.. United States Banker.* Dec 1984. Vol. 95, Iss. 12; p. 27 (2 pages)  
Abstract

19. **Automation of Payments in the Federal Republic of Germany: Status and Future Prospects**  
*Engler, Rolf. Journal of Bank Research.* Park Ridge: Winter 1981. Vol. 11, Iss. 4; p. 233  
Abstract

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[Credit Card Management: New York](#)

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1. [The Network as a Corporate Asset](#)

*Palmer, Jeffrey H., Dern, Daniel P.. Infosystems.* Wheaton: Apr 1986. Vol. 33, Iss. 4; p. 48 (4 pages)

[Abstract](#)

2. [Communications Choices for POS](#)

*Elliott, Claude E., Jamieson, Robert L.. Computing Canada.* Willowdale: Feb 6, 1986. Vol. 12, Iss. 3; p. 20 (3 pages)

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data packet "electronic cash"

[Search](#)

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- Broaden your search by selecting other databases, removing limits, or searching "Citations and document text" (if available).
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1. [Understanding wireless network performance](#)

*John Fischer. Telecommunications.* Sep 2000. Vol. 34, Iss. 9; p. 43 (2 pages)

[Text+Graphics](#)

[Full Text - PDF](#)

[Abstract](#)

2. [iBEAM to Stream ValueVision TV Programming on Internet Strategic Alliance With Leader in Satellite Streaming Helps ValueVision Achieve TV/Internet Convergence Strategy.](#)

*PR Newswire.* New York: Oct 26, 1999. p. 1

[Full text](#)

[Abstract](#)

3. [Harnessing global information](#)

*Buckler, Grant. I.T. Magazine.* Toronto: Oct 1993. Vol. 25, Iss. 10; p. 16 (4 pages)

[Full text](#)

[Full Text - PDF](#)

[Abstract](#)

4. [New York Tel Banks On Packet Technology](#)

*Telephony.* Chicago: Mar 20, 1989. Vol. 216, Iss. 12; p. 26 (4 pages)

[Full Text - PDF](#)

[Abstract](#)

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ftext1	On	15,9,275,621,636,16,160
ftext2	On	610,810,476,624,634,20
sub14	On	635,570,papersmj,paperseu
sub28	On	8,14,94,6,34,434,7
sub35	On	625,268,626,267

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\*\*\*

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\*\*\*Engineering Index Backfile (File 988)

\*\*\*Verdict Market Research (File 769)

\*\*\*EMCare (File 45)

\*\*\*Trademarkscan - South Korea (File 655)

RESUMED UPDATING

\*\*\*File 141, Reader's Guide Abstracts

\*\*\*

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\*\*\*Files 340, 341 & 942, CLAIMS/U.S. Patents - 2006 reload now online

\*\*\*Files 173 & 973, Adis Clinical Trials Insight

\*\*\*File 11, PsycInfo

\*\*\*File 531, American Business Directory

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DATABASES REMOVED

\*\*\*File 196, FINDEX

\*\*\*File 468, Public Opinion Online (POLL)

Chemical Structure Searching now available in Prous Science Drug Data Report (F452), Prous Science Drugs of the Future (F453), IMS R&D Focus (F445/955), Pharmaprojects (F128/928), Beilstein Facts (F390), Derwent Chemistry Resource (F355) and Index Chemicus (File 302).

\*\*\*

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635,570,papersmj,paperseu, 8,14,94,6,34,434,7, 625,268,626,267

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1 of the specified files is not available

[File 35] Dissertation Abs Online 1861-2006/Nov  
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[File 583] Gale Group Globalbase(TM) 1986-2002/Dec 13  
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[File 65] Inside Conferences 1993-2006/Dec 15  
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[File 2] INSPEC 1898-2006/Dec W2  
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[File 144] **Pascal** 1973-2006/Nov W4  
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[File 474] **New York Times Abs** 1969-2006/Dec 20  
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[File 475] **Wall Street Journal Abs** 1973-2006/Dec 20  
(c) 2006 The New York Times. All rights reserved.

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Nov  
(c) 2006 The HW Wilson Co. All rights reserved.

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[File 275] **Gale Group Computer DB(TM)** 1983-2006/Dec 19  
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[File 621] **Gale Group New Prod.Annou.(R)** 1985-2006/Dec 15  
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[File 636] **Gale Group Newsletter DB(TM)** 1987-2006/Dec 19  
(c) 2006 The Gale Group. All rights reserved.

[File 16] **Gale Group PROMT(R)** 1990-2006/Dec 19  
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(c) 1999 The Gale Group. All rights reserved.

[File 610] **Business Wire** 1999-2006/Dec 20  
(c) 2006 Business Wire. All rights reserved.

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[File 810] **Business Wire** 1986-1999/Feb 28  
(c) 1999 Business Wire . All rights reserved.

[File 476] **Financial Times Fulltext** 1982-2006/Dec 20  
(c) 2006 Financial Times Ltd. All rights reserved.

[File 624] **McGraw-Hill Publications** 1985-2006/Dec 20  
(c) 2006 McGraw-Hill Co. Inc. All rights reserved.

\*File 624: Homeland Security & Defense and 9 Platt energy journals added Please see HELP NEWS624 for more

[File 634] **San Jose Mercury** Jun 1985-2006/Dec 17  
(c) 2006 San Jose Mercury News. All rights reserved.

[File 20] **Dialog Global Reporter** 1997-2006/Dec 20  
(c) 2006 Dialog. All rights reserved.

[File 635] **Business Dateline(R)** 1985-2006/Dec 20  
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(c) 2006 Denver Post. All rights reserved.

[File 471] **New York Times Fulltext** 1980-2006/Dec 20  
(c) 2006 The New York Times. All rights reserved.

[File 492] **Arizona Repub/Phoenix Gaz** 19862002/Jan 06  
(c) 2002 Phoenix Newspapers. All rights reserved.  
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[File 494] **St LouisPost-Dispatch** 1988-2006/Dec 19  
(c) 2006 St Louis Post-Dispatch. All rights reserved.

[File 631] **Boston Globe** 1980-2006/Dec 19  
(c) 2006 Boston Globe. All rights reserved.

[File 633] **Phil.Inquirer** 1983-2006/Oct 29  
(c) 2006 Philadelphia Newspapers Inc. All rights reserved.

[File 638] **Newsday/New York Newsday** 1987-2006/Dec 20  
(c) 2006 Newsday Inc. All rights reserved.

[File 640] **San Francisco Chronicle** 1988-2006/Dec 20  
(c) 2006 Chronicle Publ. Co. All rights reserved.

[File 641] **Rocky Mountain News** Jun 1989-2006/Dec 20  
(c) 2006 Scripps Howard News. All rights reserved.

[File 702] **Miami Herald** 1983-2006/Dec 16  
(c) 2006 The Miami Herald Publishing Co. All rights reserved.

[File 703] **USA Today** 1989-2006/Dec 19  
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[File 704] **(Portland)The Oregonian** 1989-2006/Dec 19  
(c) 2006 The Oregonian. All rights reserved.

[File 713] **Atlanta J/Const.** 1989-2006/Dec 17  
(c) 2006 Atlanta Newspapers. All rights reserved.

[File 714] **(Baltimore) The Sun** 1990-2006/Dec 20  
(c) 2006 Baltimore Sun. All rights reserved.

[File 715] **Christian Sci.Mon.** 1989-2006/Dec 20  
(c) 2006 Christian Science Monitor. All rights reserved.

[File 725] **(Cleveland)Plain Dealer** Aug 1991-2006/Dec 19  
(c) 2006 The Plain Dealer. All rights reserved.

[File 735] **St. Petersburg Times** 1989- 2006/Dec 19  
(c) 2006 St. Petersburg Times. All rights reserved.

[File 477] **Irish Times** 1999-2006/Dec 19  
(c) 2006 Irish Times. All rights reserved.

[File 710] **Times/Sun.Times(London)** Jun 1988-2006/Dec 20  
(c) 2006 Times Newspapers. All rights reserved.

[File 711] **Independent(London)** Sep 1988-2006/Dec 12  
(c) 2006 Newspaper Publ. PLC. All rights reserved.

\*File 711: Use File 757 for full current day's news of the Independent, as well as full coverage of many additional European news sources.

[File 756] **Daily/Sunday Telegraph** 2000-2006/Dec 20  
(c) 2006 Telegraph Group. All rights reserved.

[File 757] **Mirror Publications/Independent Newspapers** 2000-2006/Dec 20  
(c) 2006. All rights reserved.

[File 8] **Ei Compendex(R)** 1970-2006/Dec W2  
(c) 2006 Elsevier Eng. Info. Inc. All rights reserved.

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[File 14] **Mechanical and Transport Engineer Abstract** 1966-2006/Dec  
(c) 2006 CSA. All rights reserved.

[File 94] **JICST-EPlus** 1985-2006/Sep W1  
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[File 268] **Banking Info Source** 1981-2006/Dec W2  
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[File 626] **Bond Buyer Full Text** 1981-2006/Dec 20  
(c) 2006 Bond Buyer. All rights reserved.

[File 267] **Finance & Banking Newsletters** 2006/Dec 18  
(c) 2006 Dialog. All rights reserved.

? s transactional (1w) data (1w) packet (s) packet adj controller

S1 0 S TRANSACTIONAL(1W)DATA(1W)PACKET (S) PACKET ADJ CONTROLLER

? s transactional(2n)data(2n)packet (s) packet(1w)controller

Processing

Processing

S2 0 S TRANSACTIONAL (2N) DATA (2N) PACKET (S) PACKET(1W)CONTROLLER

?

? s transactional(1w)data(1w) (packet or capsule or conatiner) (s) control???.?

S3 0 S TRANSACTIONAL(1W)DATA(1W) (PACKET OR CAPSULE OR CONATINER) (S)  
CONTROL???.?

? s S (TRANSACTION???.? or business) (2n)DATA(2n) (PACKET OR CAPSULE OR CONTAINER)

S4 0 S S (TRANSACTION???.? OR BUSINESS) (2N)DATA(2N) (PACKET OR CAPSULE OR  
CONTAINER)

? s (TRANSACTION???.? OR BUSINESS) (s)payment(s) ((data or information)10N)streams

>>>W: Invalid syntax

>>>E: There is no result

?

? s (TRANSACTION? OR BUSINESS) (s)payment(s) ((data or information) (10N)streams)

Processing

Processing

Processing

Processing

Processing

Processing

Processing

S5 283 S (TRANSACTION? OR BUSINESS) (S) PAYMENT(S) ((DATA OR  
INFORMATION) (10N) STREAMS)

?  
? s s5 and ((transacting(2n)directly or self(2n)(controlled or controlling))  
>>>W: Unmatched parentheses  
>>>E: There is no result  
  
? s s5 and ((transacting(2n)directly) or (self(2n)(controlled or controlling)))  
Processing

S6 0 S S5 AND ((TRANSACTING(2N)DIRECTLY) OR (SELF(2N)(CONTROLLED OR  
CONTROLLING)))

?  
? s s5 not (PY=>20000905)  
Processing  
Processing  
Processing  
Processing

S7 33 S S5 NOT (PY=>20000905)

? rd  
>>>W: Duplicate detection is not supported for File 625.  
Duplicate detection is not supported for File 626.  
Records from unsupported files will be retained in the RD set.

S8 23 RD (UNIQUE ITEMS)

? t s8/t/3,k/all  
>>>E: Syntax error near "s8/t/3,k/all"

? t s8/3,k/1-33

8/3,K/1 (Item 1 from file: 15)  
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02314501 34570483

**Overlooked exposure**

Lipp, Anthony J; Norman, Jay D  
Banking Strategies v74n5 pp: 41-48  
Sep/Oct 1998  
ISSN: 1091-6385 Journal Code: BAD

**Abstract:**

...new rivals if they are to stake their claim in electronic commerce. Product development efforts must be centered on online propositions that enhance billers' electronic business models. Commercial banks must also find innovative ways to capitalize on new streams of customer information available in the electronic environment. And wholesale and retail bankers must collaborate fully if they are to capitalize on the Internet-driven revolution in bill presentment and payment. One serious trap to be avoided is assuming that there is no urgent need to plan for tomorrow, simply because the pace of change appears...

8/3,K/2 (Item 2 from file: 15)

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01619378 02-70367

**Billers will call the shots in bill presentment**

Orr, Bill  
ABA Banking Journal v90n4 pp: 70  
Apr 1998  
ISSN: 0194-5947

**Journal Code: BNK**

**Word Count: 791**

**Text:**

...be the long-awaited killer app that will bring home banking to the masses. The industry consensus is that full-cycle electronic bill presentment and payment systems (EBPP) are definitely coming. But now is still too early to see clearly what shape it will take. As James S. Diggs, vice-president for business development at BlueGill Technologies, puts it: "The major players are making up a lot of things as they go along." Diggs is in a good position to know. His Ann Arbor, Mich.-based software company works with all the major players, providing crucial back office solutions that translate billers' legacy data-streams into interactive applications on the World Wide Web.

**Billers will pay**

So far, Diggs says, all players seem to agree that billers will pay the...

8/3,K/3 (Item 3 from file: 15)

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01240743 98-90138

### **Seven cash management solutions for health care companies**

Gregory, Tom

Commercial Lending Review v11n3 pp: 20-27

Summer 1996

ISSN: 0886-8204 Journal Code: CLV

Word Count: 3205

Text:

...number of sources. First, the Health Care Finance Administration (HCFA) now requires health care providers to submit all claims electronically as well as to accept payment and remittance advice via EDI. Second, the Work Group on EDI issued the WEDI Report, which claims that health care providers can save over \$40 billion annually if they convert just six routine transactions from paper to electronic. Third, banks, which have already seen the benefits of EDI in other industries, are strongly encouraging their health care customers to convert to electronic transactions.

Accordingly, many health care financial managers are convinced of the benefits of EDI and are embracing the technology. At the same time, however, others still...

8/3,K/4 (Item 4 from file: 15)

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01205128 98-54523

### **If you are serious about financial EDI, restructure your cash application process**

Kaiser, L H

Business Credit v98n4 pp: 23-25

Apr 1996

ISSN: 0897-0181 Journal Code: CFM

Word Count: 1741

Text:

...the additional flexibility of separately receiving the remittance detail that lists the invoices, credits, and other pertinent information.

Affordable software can be purchased to match payment and remittance data as well as to merge and correct these data streams before updating the accounts receivable system. Not only should this software provide internal connectivity (EDI data stream to accounts receivable system), but to be effective...

...will be saved. And time is money! It is feasible for companies to develop their own software but only economically justifiable if they have large transaction volumes. The challenge is for a company with transaction totals in the range of 50 to 4,000 per day to enjoy the advantages of restructured cash receipt processing without having to pay the...

8/3,K/5 (Item 5 from file: 15)

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01202280 98-51675

### **Building an Internet promotion program**

Liebman, Milt

Medical Marketing & Media v31n4 pp: 90-101

Apr 1996

**ISSN: 0025-7354 Journal Code: MMM**

**Word Count: 4606**

**Text:**

...of therapy, and outcomes. The combination and selected application of these data add greatly to their value. Zoller foresees three revenue streams: user-based with payment of subscription fee for high value content; advertising fees justified by audience; and transaction -delivered income from the viewer, for information benefits such as CME courses leading to credit, for example. To help achieve these goals, Medical Economics will...

8/3,K/6 (Item 6 from file: 15)

ABI/Inform(R)

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00566598 91-40952

### **Software**

Goldman, Mark; Roberson, Ray

Mortgage Banking v51n11 pp: 69-70

Aug 1991

**ISSN: 0730-0212 Journal Code: MOB**

**Word Count: 1979**

**Abstract:**

Maximum productivity in software support for the loan production aspect of the mortgage banking **business** is critical because personnel costs are a significant component of total cost. Business functions such software should support include prequalification, processing, underwriting, closing, and any related management reporting. The loan origination-production software should also have several features...

...all of these functions. Lenders should be able to flexibly define loan programs, and the software should handle a variety of loan types, terms, and **payment streams**. All functions should be integrated, with **data** entered only once. Companies offering loan origination-production packages having significant installed bases include Dynatek Inc., Eastern Software Corp., Financial Industry Computer System, FiTech Systems...

8/3,K/7 (Item 1 from file: 9)

Business & Industry(R)

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01351788 Supplier Number: 24015769

**Web Service For Indian News, Business Information**

( Matrix Information Services Ltd is offering Matrix Informer, a Web-based database service for Indian news and information )

Newsbytes News Network , p N/A

September 02, 1997

**Document Type:** Journal ( United States )

**Language:** English **Record Type:** Fulltext

**Word Count:** 916

**TEXT:**

MUMBAI, INDIA, 1997 SEP 2 (NB) -- By Madanmohan Rao. A Web-based database service for Indian news and **business** information, called Matrix Informer (<http://www.matrix.co.in> ), is being offered by Matrix Information Services Ltd., a wholly owned subsidiary of Indian financial services...

...news articles from 7 Indian newspapers and one newswire, and trade statistics for the past 5 years on all countries with which India trades. "To **business** and research professionals, we seek to become the primary source for quality information about India. To Indian content producers, we offer additional revenue **streams**," according to Keya Sarkar, chief executive at Matrix Information Services. The list of searchable content includes news from major English-language newspapers (**Business Line**, **Business Standard**, **Hindu**,

Hindustan Times, Telegraph, Times of India, Economic Times), reports from the Center for Monitoring the Indian Economy (CMIE) and the Credit Rating Information...

...is in English. The timing is now perfect - the Internet is just taking off in India, and credit cards are widely accepted as means of payment. The business and research community in India is realizing the importance of ready access to comprehensive news and information," according to Sarkar. The newspaper content includes news...

...only service, a full access service, monthly subscription, annual subscription, and even pre-paid password accounts (for users in India) starting from Rs. 250. The payment method for the service is by credit card, but not online - users have to supply their credit card numbers offline. Payments by cash, check or demand draft are not yet accepted. "To increase the accessibility of the service, we are also thinking of setting up service counters in business districts and libraries, where an attendant will access our site in response to queries from users. We also plan to set up pre-paid password services at libraries," says Sarkar. "We don't plan to get into the content generation business ourselves - otherwise, we will be competing directly with our content providers. Our focus is only on content aggregation and distribution," says Sarkar. "We also don...

...from flashy ads so that users on a slow dial-up line can also expect reasonable online performance," Sarkar explains. Future plans include addition of business magazine content, acquiring news archives of the past years, providing access to photograph archives, setting up a high-speed mirror site abroad, and offering library...

...in. "We are prepared for the long haul. We expect to break even only after a few years," Sarkar says. "We are certainly taking a business risk - but there is a bigger risk in waiting too long and missing the bus altogether." (19970902/Reported by Newsbytes News Network <http://www.newsbytes...>

8/3,K/8 (Item 2 from file: 9)

Business & Industry(R)

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00603360 Supplier Number: 23164728

**NY Clearing House Unveils Small-Bank EDI Software**

(New York Clearing House Association's new ACHRedi software translates remittance information that accompanies business-to-business EDI payments )

American Banker , v CLX , n 62 , p 15

March 31, 1995

Document Type: Journal ISSN: 0002-7561 (United States )

Language: English Record Type: Abstract

## ABSTRACT:

The New York Clearing House Association has developed ACHRedi, personal computer software designed to help banks process the financial information that accompanies business-to-business electronic data interchange (EDI) payments. In financial EDI, the receiving bank gets remittance information (such as data about the purpose of payment, adjustments and discounts) along with the payment. ACHRedi allows banks to translate remittance information written in long streams of digits into human-readable reports and computer-readable files. Banks can then send the translated information to their corporate customers. The New York Clearing...

8/3,K/9 (Item 1 from file: 275)

Gale Group Computer DB(TM)

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02432430 Supplier Number: 65161499 (Use Format 7 Or 9 For FULL TEXT )

Tweak Registry for Broadband Speed.(Everything you need to know about getting and using broadband Internet access.)(Product Support)(Tutorial)

Finnie, Scot

WinMag.com , NA

July 25 , 2000

Document Type: Tutorial

Language: English Record Type: Fulltext; Abstract

Word Count: 4407 Line Count: 00337

### Text:

...Windows Insider) from July 12 to July 22.I should have seen this coming, but I didn't. My Flashcom mailbox was overflowing only three

business days after I left, and the company rejected all my mail from that point on. Flashcom didn't even notify me of the problem until...

...others. It's not really an ISP. Instead, it pays you to take monthly surveys (apparently the same or similar to the WorldShare surveys). The payment it makes is a reimbursement to you for your ISP's monthly charge, up ...what "streaming media" companies do is resort to trickery to make small pictures and tinny sound come together in an approximation of TV-like live "streams." Bottom line, what they do is hope to get the data transmission small enough that you'll have fewer synchronization interruptions due to Internet hiccups.&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;But having said all that, moving...longtime MediaOne customer myself (from January of 1997

to June of 1999). I can tell you this, if you use your cable modem mostly during business hours, I think a lot of this will be a moot point. The peak times are usually from 8PM to 11PM on weekdays, and weekend...

8/3,K/10 (Item 1 from file: 621)

Gale Group New Prod.Annou.(R)

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02714835 Supplier Number: 66657863 (USE FORMAT 7 FOR FULLTEXT)

New LML Processing Facility Goes Live.

PR Newswire , p NA

Nov 7 , 2000

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

Word Count: 412

...With financing provided by IBM Credit Corporation, the new processing center is equipped with an IBM OS/390 mainframe system capable of handling large volume transaction data streams in real-time.

Phoenix EPS' flagship product, REPS (Retail Electronic Payment System) is a secure and centralized gateway for electronic payment authorization and settlement traffic between store registers, authorization networks and financial institutions. The processing capabilities of REPS, in concert with the volume capacity of the IBM mainframe architecture, provide a completely scalable, flexible transaction processing solution.

"The opening of the Phoenix EPS processing center should allow us to leverage our intellectual property and vertically integrated service offerings as planned..."

8/3,K/11 (Item 2 from file: 621)

Gale Group New Prod.Annou.(R)

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02643413 Supplier Number: 65242832 (USE FORMAT 7 FOR FULLTEXT)

VIRGIN MOBILE SELECTS INFOSPACE TO PROVIDE PLATFORM FOR NEXT GENERATION WIRELESS INTERNET SERVICES.

PR Newswire , p 8621

Sept 14 , 2000

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

Word Count: 977

...and broadband wireless (2.5G and 3G) services such as interactive

gaming, television and other entertainment services. In addition, the announcement brings full back end payment processing to InfoSpace's existing commerce services, allowing InfoSpace to offer everything a merchant needs to conduct the entire lifecycle of a transaction, one of the key drivers of mobile commerce adoption.

**About Virgin Mobile**

Virgin Mobile is a 50:50 joint venture company between Virgin and Deutsche...

8/3,K/12 (Item 3 from file: 621)

Gale Group New Prod.Annou.(R)

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02449161 **Supplier Number: 61396190 (USE FORMAT 7 FOR FULLTEXT)**

**Optio Software Inc. Delivers B2B Payment Solution with Launch of Optio e.ComPayments.**

Business Wire , p 0267

April 10 , 2000

**Language:** English **Record Type:** Fulltext

**Document Type:** Newswire ; Trade

**Word Count:** 966

...products that provide business-to-business integration and presentation of highly-tailored information supporting core business processes.

Optio e.ComPayments supports both print and electronic payment requirements to facilitate an organization's transition from paper-intensive commerce to e-business. Optio e.ComPayments integrates with existing accounts payable, ERP (Enterprise Resource Planning) and financial applications; captures live data streams and produces bank-compliant, secure electronic payments or paper checks. Through Optio e.ComPayments, electronic advice notifications can be distributed to a variety of digital...

8/3,K/13 (Item 1 from file: 16)

Gale Group PROMT(R)

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05251767 **Supplier Number: 48004280 (USE FORMAT 7 FOR FULLTEXT)**

**Banks Told to Mine Data in Battle for Market**

BLOOM, JENNIFER KINGSON

American Banker , p 20

Sept 25 , 1997

**Language:** English **Record Type:** Fulltext

**Document Type:** Magazine/Journal ; Trade

**Word Count:** 475

...no time for banks to be complacent."

Susan L. Roth, vice president and senior analyst at Donaldson, Lufkin & Jenrette, spoke of a "shift from pure transaction processing to information processing," turning payment-related data streams into marketing tools.

She said the movement is typified by First Data Corp.'s acquisition of Donnelley Marketing Inc. and development of the Usave target...

8/3,K/14 (Item 1 from file: 20)

Dialog Global Reporter

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30433454 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Q4 2003 NDCHealth Earnings Conference Call - Part 1

FAIR DISCLOSURE WIRE

July 03, 2000

Journal Code: WFDW Language: English Record Type: FULLTEXT

Word Count: 4558

...reducing interest expense and lowering our debt to capital ratio towards a target of 35 percent. Low double-digit to midteens revenue growth in both business segments by the fourth quarter of 2005. Operating margin expansion of more than 100 basis points by the fourth quarter of 2005 compared to the...

...in fiscal 2004. The key drivers to this revenue growth in this segment are: further penetration of our provider customer base with additional value added transaction services to grow revenue per claim, continued growth in claims, rollout of the new system technology platforms in pharmacy and hospital with the recurring revenue...

...One of our strategies is to increase the percentage of recurring revenue in the network segment by shifting more of our pricing models to be transaction based. We recognize this creates pressure on revenue growth in the short term as we transition to the new model, but it builds reliable recurring revenue stream. We expect margins to continue to expand in the network segment primarily due to increasing transaction scale in a relatively high fixed cost of business and positive contributions from new products and services. In the information management segment of our business, while there have been some recent positive announcements among the pharmaceutical manufacturers, we continue to take a cautious view about the timing of a rebound...

...quarter of fiscal 2005. Margins could also expand longer term through the following. A reacceleration of the revenue growth in this relatively high fixed cost business, tight cost controls and achievement of

profitability in international operations. For the total company NDCHealth, we expect revenue to increase in the low double-digit...to our plan, including the Medicare drug benefit which is being mandated into law and the consequential growth -- the consequent growth of claims and valuated transaction volumes, accelerated those options electronic prescribing, greater interest among Pharma customers for our new solutions which leverage our claims processing network, acceleration of Pharma demand...of solutions to our customers rather than individual products as we have emphasized in the past. In conjunction with selling solutions, the customer may remit payment in advance of receiving services. This causes an increase in cash and in deferred revenue consistent with our recurring revenue strategy. Revenue for these contracts...of our eight quarter plan are to grow revenue, expand margins and generate cash flow. Walter has addressed revenue growth. Regarding margin expansion, generally our business model is a high fixed cost, low variable cost model which requires scale and achievement of critical mass in our markets. The model is leveraged by the incremental transactions we process on the relatively fixed cost of the network and by incremental services we provide to Pharma customers which leverage purchase data. Our margins...

...management margin that will be impacted by European expansion and continuing spending curbs in our Pharma customers. As we continue to leverage our fixed cost business, and we execute against our eight quarter plan, by the fourth-quarter of fiscal 2005 we expect to see low double-digit to midteens revenue growth in both business segments, operating margin expansion of more than 100 basis points from the fourth-quarter of fiscal 2003 to the fourth-quarter of fiscal 2005, and...

...will be successful in executing our eight quarter plan. The key points to our strategy are: one, to increase revenue per claim through value added transactions; two, to grow claims volume as the market grows and through gains in market share; and three, to position our information management business to create new streams of revenue through our extensive claims processing resources, and to be well positioned for a rebound in the Pharma manufacturing industry. We will now move...

8/3/K/15 (Item 1 from file: 713)

Atlanta J/Const.

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07726070

## PUBLIC ANSWER LINE 822-PALS

Atlanta Constitution (AC) - Saturday August 13, 1994

Section: EXTRA Page: J/9

Word Count: 2,101

Caption:

...Elderly & Disabled..	698 Mental Health, Mental Retardation, Substance Abuse Services.....	784 Therapeutic Recreation for Disabled Youth.....	419 Economic Development Block Grants for Public Agencies.....	436					
<b>Business License.....</b>	<b>747 Business License Fees.....</b>	310 Chamber of Commerce.....	534						
Community Development Block Grant....	551 Education Attendance Zones.....	321 Community Schools Programs.....	568 Employment Applications.....	408 Gwinnett Technical... ...A-Road.....	235 Adopt-A-Stream.....	263 Detention Ponds.....	441 Environmental Workshops..	253 Litter Reporting.....	404
Mosquitoes.....	375 Recycling.....	233 Special Events.....	383 Springs.....	343					
<b>Streams/Creeks.....</b>	<b>477 Wetlands.....</b>	<b>620 Extension Service General Information .....</b>	<b>735</b>						
Agricultural Programs.....	785 Family Resource Management.....	474 Natural Resources Management.....							
689 Nutrition - Improving Diet & Health..	350 Youth at Risk.....	559 Family/Youth Services Battered..							
...752 First-Time Homebuyer Program.....	384 Housing for Elderly & Disabled.....	279 Rock Program.....							
455 Septic Tanks.....	751 Library Services Book Sales.....	207							
Branch Locations.....	558 <b>Business Info Center.....</b>	305 Center for Special Needs.....	311 Dial-Up Catalog.....						
406 Friends of the Library.....	505 Getting a Card.....	221 Mailbox Books.....	344 Open Hours.....						
439 Renew a Book by Telephone.....	389 Licenses								
Alcoholic Beverage License.....	502 <b>Business License.....</b>	747 <b>Business License Fees.....</b>	310						
Drivers License Info.....	423 Firearm License - First-time Permits..	510 Firearm License - Renewals.....	476 Marriage License - Age 18 & Up.....	223 Marriage License..	Illegal dumping into Storm Drains..				
228 Irrigation meters.....	598 Lead in Water.....	416 Leaks/High Bill.....	325 Loss of Water.....	628 Meter Installations.....					
628 Meter Installations.....	642 Non-Payment Disconnect.....	578 Office Hours.....	676 Past Due Accounts.....						
623 Payment Drop Boxes.....	702 Pipeline Construction Questions & Complaints.....	370 Returned Checks.....	277 Septic Tanks.....						
751 Service Charges.....	515 Sewage/Odor Problems.....	358 Sewer Stub Locations.....	272...						

8/3,K/16 (Item 1 from file: 625)

American Banker Publications

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0205591

### Banks Told to Mine Data in Battle for Market

American Banker - September 25, 1997 ; Pg. 20 ; Vol. 162 , No. 185

Document Type: Journal Language: English Record Type: Fulltext

Word Count: 481

**Byline:**

By JENNIFER KINGSON BLOOM

**Text:**

...no time for banks to  
be complacent."

Susan L. Roth, vice president and senior analyst at Donaldson, Lufkin &

Jenrette, spoke of a "shift from pure transaction processing to information processing," turning payment-related data streams into marketing tools.

She said the movement is typified by First Data Corp.'s acquisition of Donnelley Marketing Inc. and development of the Usave target...

8/3,K/17 (Item 1 from file: 267)  
Finance & Banking Newsletters  
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04574235

## CARD INDUSTRY LOOKS TO TECHNOLOGY TO STAMP OUT FRAUD

Card News  
December 27, 2000 Vol: 15 Issue: 26 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 1381 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

### Text:

#### Internet Commerce Drives Need for 'Card-Not-Present' Solutions

Card-not-present transactions may have been with us for decades in the form of mail order-phone order [MOTO] sales, but the volume and velocity of Internet commerce...

...without transmitting their actual card account number over the Internet and will be available free within the next month to American Express consumer and small business cardmembers in the United States.

Unlike a typical credit card transaction over the Internet that transfers the credit card number and expiration date to the merchant's server, private Payments randomly creates a unique number with...  
...reported.

A similar approach to authenticating the credit card user was launched early in the year by New York-based Cyota, an international on-line payment security company. Isracard, a credit card issuer based in Israel with a portfolio of 1.5 million cards, recently announced it would use Cyota's SecureClick system to make safe transactions on-line.

Cyota's SecureClick also addresses the authentication dilemma by allowing consumers to make purchases on-line without revealing their real credit card number...

...A survey of more than 160 companies released by Stamford, Conn.-based Gartner Group in August found that 12 times more fraud exists on Internet transactions and that e-tailers are paying credit card discount rates that are 66 percent higher than traditional retailer fees. Moreover, Web merchants bear the liability...

...card companies generally absorb the fraud for traditional retailers, as long as the retailer follows procedures and saves a physical signature on a credit card transaction receipt.

The e-tailers surveyed by Gartner reported that their average credit card discount rate was 2.5 percent plus about 30 cents a transaction. The same average for traditional retailers is about 1.5 percent plus 30 cents per transaction. Therefore, a merchant may pay credit card processors \$2.80 for selling a shirt on-line, but pay only \$1.80 for the same transaction in the physical store. Also, the Gartner survey found, e-tailers spend about four times more to resolve and process chargebacks than their brick-and...

...s been a lot of conjecture to date, you've seen some wild speculation that it's as high as 10-25 percent of all transactions on the one hand, but then you hear the credit card companies say it's as high as the physical world," said Avivah Litan, research director, Gartner Financial Services. "What we found is it's a little under 1.2 percent of transactions.

It's much higher than what the credit card companies have been saying -- it's about 12 times higher at least -- but it's much...

...although Litan points out that lower real-world fraud rates are often reported.

The Gartner survey did not address credit card fraud in physical world transactions, Litan said.

#### Using Predictive Scoring to Reduce Fraud

Because on-line purchases are classified as card-not-present transactions, merchants, rather than card issuers, are responsible for the chargebacks resulting from these transactions. If the bottom line is that e-

tailers are getting hit from all sides, several key vendors in this space are looking to provide them...of when deciding to extend credit to consumers in the first place -- are being leveraged to help e-tailers determine the fraud risk of individual transactions.

At the core of many recent announcements is technology from San Diego-based HNC Software Inc. [HNCS], a provider of predictive software solutions for service...

...including financial, insurance, telecommunications and e-commerce. HNC's suite of predictive software solutions aims to provide real-time insight into customer relationships based on transaction-level data, helping companies manage their relationships with individual customers.

By accurately predicting customer behaviors, these companies can create initiatives to mitigate risk and attrition; improve customer service; develop marketing programs to enhance profitability, and detect fraudulent customer transactions, HNC officials say. Within the past few weeks, several firms, including First Data Corp., CyberCash and VeriSign have unveiled services for e-tailers based on the HNC offerings.

Such a system is most helpful, however, when multiple data streams can be incorporated. In late June, eHNC, a application service provider (ASP) subsidiary of HNC Software, announced it would team with Equifax Inc. [EFX] to...

...to supply the technology that enabled the predictive scoring. FraudPatrol is based on HNC's eFalcon system and is tightly integrated with CyberCash's Internet payment service, a secure application programming interface (API), and advanced administrative tools. FraudPatrol is available to both current CyberCash merchants and merchants who are not currently using CyberCash's Internet payment service.

In a move that could have a profound effect on fraud reduction in the off-line debit and credit card arena, Woodcliff Hills, N...

...a neural network system developed by MasterCard and HNC Software. RiskFinder uses HNC's patented neural network modeling technology while leveraging the MasterCard Banknet global transaction processing network to predict and, ultimately,

help to reduce  
fraud losses associated with credit and off-line debit cards.

8/3,K/18 (Item 2 from file: 267)  
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04569752

## CARD FRAUD SIGNIFICANTLY HIGHER IN INTERNET COMMERCE TRANSACTIONS

Card News

August 9, 2000 Vol: 15 Issue: 16 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 2390 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

Text:

...One in a Two-Part Series

Although credit card fraud historically has been higher in so-called "card-not-present" than in "face-to-face" transactions, the incidence of fraud with e-commerce transactions over the Internet is substantially greater than in the real world, recent research has found.

As a result of this greater vulnerability, service providers are...

...A new survey of more than 160 companies conducted by Stamford, Conn.-based Gartner Group [IT] found that 12 times more fraud exists on Internet transactions and that e-tailers are paying credit card discount rates that are 66 percent higher than traditional retailer fees.

Moreover, Web merchants bear the liability...

...card companies generally absorb the fraud for traditional retailers, as long as the retailer follows procedures and saves a physical signature on a credit card transaction receipt.

The e-tailers surveyed by Gartner reported that their average credit card discount rate was 2.5 percent plus about 30 cents a transaction.

The same average for traditional retailers is about 1.5 percent plus 30 cents per transaction.

Therefore, a merchant may pay credit card processors \$2.80 for selling a shirt online, but pay only \$1.80 for the same transaction in the

physical store.

Also, the Gartner survey found, e-tailers spend about four times more to resolve and process chargebacks than their brick-and...

...been a lot of conjecture to date, you've seen some wild speculation that it's as high as 10 to 25 percent of all transactions on the one hand, but then you hear the credit card companies say it's as high as the physical world," says Avivah Litan, research director, Gartner Financial Services.

"What we found is it's a little under 1.2 percent of transactions. It's much higher than what the credit card companies have been saying -- it's about 12 times higher at least -- but it's much..."

...although Litan points out that lower real-world fraud rates are often reported. The Gartner survey did not address credit card fraud in physical world transactions, Litan said.

"We did ask them about chargebacks in total and there were about twice as many chargebacks including disputes and fraud, but when you...the merchants need is fraud protection and there are solutions on the market."

#### Solutions Emerging Slowly

While the development of new forms of secure online payment like PIN-based debit transactions, smart cards and other forms of authentication are in the works, most of these are not yet ready for prime time in the U.S... ...of mobile commerce over a wide variety of devices may offer further challenges to rooting out certain types of credit card fraud in e-commerce transactions.

"The problem is the authentication today using digital certificates on a mobile device or a smart card attached to a mobile device, that's years..."

...high fees -- this just adds to the whole fee structure. It's a little unfair to the e-tailer -- it's a cost of doing business. It's almost like they have to do it because if their fraud stays as it is now, they're going to lose their account. ... Especially the small ones."

As for other solutions that require consumers to migrate to a new method of conducting those transactions, the incentives may not yet exist for consumers to embrace new solutions, Litan believes. "The problem is going to be the consumers," she says. "The..."

...you're protected. These other schemes, the only way they're going to take off is if the merchants incent consumers...to use a separate payment system that doesn't use credit cards."

#### Using Predictive Scoring To Reduce Fraud

Because online purchases are classified as "card-not-present" (CNP) transactions, merchants, rather than card issuers, are responsible for the chargebacks resulting from these transactions. If the bottom line is that e-tailers are getting hit from all sides, several key vendors in this space are looking to provide them...

...of when deciding to extend credit to consumers in the first place -- are being leveraged to help e-tailers determine the fraud risk of individual transactions.

At the core of many recent announcements is technology from San Diego-based HNC Software Inc. [HNCS], a provider of predictive software solutions for service...  
...including financial, insurance, telecommunications and e-commerce. HNC's suite of predictive software solutions aims to provide real-time insight into customer relationships based on transaction-level data, helping companies manage their relationships with individual customers.

By accurately predicting customer behavior, these companies can create initiatives to mitigate risk and attrition; improve customer service; develop marketing programs to enhance profitability, and detect fraudulent customer transactions, HNC officials say. Within the past few weeks, several firms, including First Data Corp., CyberCash and VeriSign have unveiled services for e-tailers based on the HNC's technology.

"Internet merchants are very concerned about fraud perpetrated online, since they are responsible for losses incurred through card-not-present transactions," says Walter Lee, vice president of Internet Risk Products with

HNC. "It is important to establish security measures at all the potential points of failure...  
...scores, and rules to distinguish between legitimate shoppers and fraudulent purchasers. It also provides strategy management and customer service tools to help merchants save legitimate transactions that appear risky, as well as set policies for accepting and rejecting transactions. eFalcon technology is based on HNC's Falcon bank card fraud detection technology, developed over a 10-year period and currently used to protect more than 300 million payment card accounts worldwide.

Such a system is most helpful, however, when multiple data streams can be incorporated. In late June, eHNC, an application service provider (ASP) subsidiary of HNC Software, announced it would team with Equifax Inc. [EFX] to...to supply the technology that enabled the predictive scoring. FraudPatrol is based on HNC's eFalcon system and is tightly integrated with CyberCash's Internet payment service, a secure application programming interface (API), and advanced administrative tools. FraudPatrol is available to both current CyberCash merchants and merchants who are not currently using CyberCash's Internet payment service.

The FraudPatrol service works by analyzing more than 200 transaction factors to produce a real-time fraud score for each credit card transaction. The system becomes smarter with experience - the more transactions it scores, the more information is stored for scoring future transactions, and the more fraud patterns FraudPatrol will detect. The system was built from a database enhanced by billions of transactions, including 60 million Internet transactions.

"Because it is based on the technology from HNC -- it has the neural network and profiling technology as well as access to a very large..."

...says Ali Ersheid, director, product marketing, e-commerce services group, CyberCash Inc. "The more participants in this system, the better the service gets, the more transactions that are built into the service."

The CyberCash offering was in beta test for two months before going live with a couple of dozen merchants...said, chargebacks from a very active holiday season were starting to come back and bite

Internet

merchants during the April time frame.

While Internet commerce transactions are in some ways similar to other card-not-present transactions such as mail order/telephone order, there are key differences that make it much easier to perpetrate fraud over the Internet than over the phone...

8/3,K/19 (Item 3 from file: 267)

Finance & Banking Newsletters

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04562096

## INTUIT DEAL WITH TRANSPONT DRIVES EBPP MARKET

Item Processing Report

February 10, 2000 Vol: 11 Issue: 3 Document Type: NEWSLETTER

Publisher: PHILLIPS BUSINESS INFORMATION

Language: ENGLISH Word Count: 1465 Record Type: FULLTEXT

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Text:

### Market Growth Threatens Bank Item Processing Operations

Last week's agreement between Intuit Inc. [INTU] and TransPoint to expand access to electronic bill presentment and payment customers and billers bodes well for accelerated growth of EBPP services. It also presents a tremendous competitive threat to financial institutions and their item processing...

...because we will be able to bring more bills to consumers than any other provider," says Celia Saino, senior product manager, Internet Bill Presentment and Payment, Intuit. "We currently work with CheckFree, we've been live with them in Quicken for a couple of years.

We went live on quicken.com As the economy electronifies, the traditional processors of financial transactions, largely banks, become disadvantaged," says Dick Poje, a partner at

XXXX-based consultancy Treasury Strategies Inc. "The payments

business is slated to generate about \$130 billion in revenue this year - arguably two-thirds of that is bank revenue, [which is] about a third, maybe...

...Even if they replace it with Web-based technology, banks are still stuck with acres and acres of hardware and software and technology for processing transactions. The implication is that the profitability of an entire industry can get zapped."

As more bills are presented electronically, remittance processing will be managed by the Internet bill payment processor and not by the financial institutions, unless the financial institutions and remittance processors have their own competitive products and services.

"They're far behind..."

...of the large banks with assets above \$4 billion, although 21 percent of the total is derived from deals with Integriion and EDS.

Bank-owned payment systems accounted for only 3 percent of the total number of banks, although many of those institutions are likely to post heavy transaction volume. Banks with assets of \$1 billion to \$4 billion were equally split between CheckFree and Brown Deer, Wisc.-based processor M&I Data, and most still were in the planning stages of their EBPP programs.

These banks were considering their home-banking vendors as the primary providers of bill payment and counting on them to provide the gateways to the most efficient payment processors.

While this relationship strategy provides banks with an efficient way of quickly getting into EBPP, payment processors also can win because it enables them to better serve their billers.

"The main reason [processors] want a partnership is that when billers get...more frequently as financial institutions seek ways to differentiate their EBPP offerings from those of their competitors.

"One of the main problems with consumer bill payment to date has been the lack of an audit trail that tells service providers and consumers what happened to their payment," Litan explains. "Half of the payments on the

back end are paper payments and they're very difficult to track. Customer service calls can cost...

...proposition. One of the ways to save money and improve service is to have an audit and tracking capability of what happens to a customer payment."

#### Cracking the EBPP Wall

While online bill payment has been available for more than a decade, being able to receive a bill online is relatively new practice. The most significant drawback is the lack of significant biller participation.

Billers face the challenge of having to justify the business case for an EBPP scenario that delivers only a fraction of their customers and may require them to receive two separate streams of remittance data - one from the EBPP service and the other from the financial institution or lockbox provider.

"It's been a challenge to get billers signed up..."

8/3/K/20 (Item 4 from file: 267)  
Finance & Banking Newsletters  
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04560855

#### THIRD-PARTY PROCESSORS MAY CONTROL THE FUTURE OF RETAIL LOCKBOX

##### ITEM PROCESSING REPORT

January 13, 2000 E Vol: 11 Issue: 1 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 510 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

##### Text:

...there, so we expect to see huge growth [for third-parties] over the next several years.

"And most banks that have looked at their retail business are finding that in some cases it might be nice to have, but rarely is it a core competency, so I don't think you..."

...on a key environment," Pinou says. "They may be at a point where they have to either embrace the new technology

[or outsource]."

### Changing The Business

As third-party remittance processors gain higher volumes, they will be able to invest more heavily in research and development efforts to meet the changing...

...and viewed as part of the overall process," Carfang says.

Corporate clients of the future want more than check processing, Carfang adds, they want various data streams and payment methods

integrated. "I have one client that has 26 billing systems and 105 different ways of receiving payments from various clients," Carfang says.

Billers are...

...technology implementation, where [providers] can sense the change of addresses and process those mechanically," Pinou says.

Washington-based Remitco is anticipating a rush of new business and beginning to eye new services, says Joe Proto, Remitco president and CEO. "In the future you will need to have greater online capabilities, such..."

...Proto says. "And to some degree, [you need] a more comprehensive offering beyond just remittance processing, such as outbound printing services."

Historically a break-even business, retail remittance processing will become more profitable as consolidation brings higher volumes to third-party processors and investments can be made for new, revenue-generating...

8/3/K/21 (Item 5 from file: 267)  
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04541186

### PRODUCT NEWS

#### ITEM PROCESSING REPORT

November 5, 1998 E Vol: 9 Issue: 22 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 487 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

**Text:**

...Holzman, Unisys, 215/986-5098,  
stephen.holzman@unisys.com.)

**HP Expands Memory Capabilities.**

For designers who need to debug systems that process and transfer large streams of data, Palo Alto, Calif.-based Hewlett-Packard Co. [HWP] introduced last week a memory expansion interface module. Users can acquire up to 40 megabits of data...

...check processing system for its international check clearing operation. The new system, which will go live in January, is valued at \$5 million. Barclays' international payment and cash management services division handles more than 1 million checks each week, in a variety of currencies. "Barclays had a very complex set of business requirements, calling not only for a flexible solution but a flexible approach to solving their process problems," says Kevin Roper, vice president, Worldwide Systems, BancTec...

8/3,K/22 (Item 6 from file: 267)

Finance & Banking Newsletters

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04537866

**Thomas Cook Boosts Web-Based FX Trading**

Robert Tie

Web Finance

August 10,1998 Document Type: NEWSLETTER

Publisher: SECURITIES DATA PUBLISHING

Language: ENGLISH Word Count: 1215 Record Type: FULLTEXT

(c) SECURITIES DATA PUBLISHING All Rts. Reserv.

**Text:**

...is about security more than anything else. "When you're dealing with a mass market, [the controlling factor] is human nature. But when it's business-to-business, there's more involved. Companies have processes in place that are time-tested," he said. And they expect their financial service providers to have equally...

...more than SSL," Walker explained, referring to Secure Sockets Layer, the security protocol most widely used on the Internet. "It's also heavily based on business practices. For example, we never pass account

information together with transaction data. And when we set up a beneficiary [i.e., payee], we don't do it on the server. Customers have to contact our dealing...

...task for recurring payments are shifted to the Virtual Trading Desk, where employees can execute them safely and efficiently.

The process of making an international payment begins with a customer issuing an order to buy foreign currency for the purpose of paying a bill in another country. The order can specify that the payment be transmitted via a draft, which enables a customer to make a payment in a payee's currency without requiring him to wait for clearance from abroad. And since meeting terms on foreign payments could sometimes require a...

...Cook offers foreign exchange services to corporations in Europe, North America, Australia and Asia, as well as to retail markets in 100 countries. "The commercial business builds on our experience in moving money and people for 150 years. We've evolved with the world's banking systems," Walker said.

In 1997...

...in selecting its technology partners for the effort, which lasted over a year. Walker recalled the priorities the team observed. "Customers wanted something that did business their way, not our way - something that would fit into their existing systems. They also wanted to make it easier to do international business simply and to be able to focus on customer service."

To that end, Cook carefully selected two nearby, Toronto-based, companies (Internet Marketing Associates and Corellan Communications) to help it build VTD and its financial transaction engine and create on-line security features. Then Cook engaged Bowne & Co. to design the fx4business.com Web site.

Now the site and VTD together...

...their home office or domestic companies that buy goods from overseas suppliers. If companies act with insufficient information on currency conditions, they may be doing business at less than favorable exchange rates.

Therefore, to add value to its service and to increase the odds of its success, Cook added to its Web site several sources of information on factors that affect exchange rates. "We have several data streams," Walker said. They include news about NAFTA, the European Monetary Union and Y2K's effect on international trade. "These sources contain premium information that we..."

...line, saving [us] time and money. In fact, the Virtual Trading Desk has helped us cut in half the time we spend on international billing transactions."

If each new client is as pleased as WorldSpace is, Walker may have been right when he said, "We have hundreds of VTD customers now..."

8/3,K/23 (Item 7 from file: 267)  
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00000779

## NACHA EBT RULES ARE NOT WELCOMED WITH OPEN ARMS

### EFT REPORT

May 8, 1996 Vol: 19 Issue: 10 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 1212 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

#### Text:

...have not endeared the group to many EBT vendors.

The new rules were designed to specify the responsibilities of the various parties involved in EBT transactions, NACHA said. However, some EBT vendors say the new rules duplicate existing EFT guidelines issued by EFT networks. Others believe NACHA is trying to gain a piece of the EBT transaction pie as ACHs look for new streams of revenue.

EBT giants Milwaukee-based Deluxe Data and Austin, Texas-based Transactive are not even members of the council. And New York-based Citibank only joined the NACHA EBT Council because most...

...left for the market to decide.

We are establishing a bureaucracy that is not needed."

"Operating rules in commercial [EFT] does not deal with EBT transactions," McEntee said. "The Honor, GulfNet [and other EFT networks] have their own rules. The EBT rules are intended to be consistent with the commercial rules..."

...and numerous state agencies.

#### The NACHA "Quest"

As part of the NACHA EBT Council's decision, the Quest mark was acquired for use by EBT payment participants who agree to abide by its new operating rules. The Quest mark would be placed on the back of EBT cards and on automated determine how the transactions will be routed. It is unclear how the rules will be applied in a geographic area where one or more networks operate, said Tom McLaughlin...

...to recognize where EBT cards may be accepted," McLaughlin

said. "It is unclear to me if a Quest mark [will really help consumers.]" EBT cash transactions are identical to any point-of-sale EFT transaction

, McLaughlin added.

#### Food Stamp Specifications

However, EBT food stamp money does contain some different transaction sets and McLaughlin expects a new specification -- the ISO

85.83 -- issued by ANSI to remedy the problem.

"You need operating rules to comply with...

...been created "to obtain input and develop consensus from all EBT stakeholders in the establishment and maintenance of uniform operating rules for the processing EBT transactions." Yet, some believe NACHA may be positioning itself to grab a piece of the EBT-transaction pie. In addition, NACHA EBT ...per year.

Vendors and states can follow the NACHA rules without joining the EBT Council.

"They say [they are not looking to enter the EBT business], and I would accept that at face value at this point," McLaughlin said. "NACHA says it is only interested in rulemaking authority. [But] I assume there is a number of different fee opportunities [for them]."

McEntee strongly rejects any notion that ACHs can gain revenue or transaction volume from EBT. ACHs only are used for the inter-bank settlement of EBT transactions.

"We don't provide these [rules] to make money. We do expect our costs to be covered [though]," McEntee said. "We have a lot of..."

>>>W: Item 24 is not within valid item range for file 267

? s payment(5n)packet(25n)transact????...?

S9 0 S PAYMENT(5N)PACKET(25N)TRANSACT????...?

? s PAYMENT(5N)PACKET(s)(instruction? and authoriz?????...?)

S10 0 S PAYMENT(5N)PACKET(S)(INSTRUCTION? AND AUTHORIZ?????...?)

? s PAYMENT(5N)PACKET(s) transaction

S11 6 S PAYMENT(5N)PACKET(S) TRANSACTION

? s s11 not (PY=>2000)

Processing

Processing

Processing

Processing

S12 1 S S11 NOT (PY=>2000)

? ts12/3,k/1

12/3,K/1 (Item 1 from file: 636)

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03898027 Supplier Number: 50064097 (USE FORMAT 7 FOR FULLTEXT)

BRIEFLY NOTED -- PRODUCTS

Telecomworldwire , p N/A

June 10 , 1998

Language: English Record Type: Fulltext

Article Type: Article

Document Type: Newsletter ; Trade

Word Count: 131

...to include xDSL cable modem and high speed data networking services. The new features include Ethernet port mapping, Authentication Services and support for 802.1Q packet tagging.

VeriFone's vWALLET Internet payment solution has achieved compliance with SETCo's Secure Electronic Transaction standard, becoming the first product to do so.

Intel has introduced the Intel Celeron 300MHz processor which is compatible with a range of basic PC...

? ts12/full/1

12/9/1 (Item 1 from file: 636)

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03898027 Supplier Number: 50064097 (THIS IS THE FULLTEXT)

**BRIEFLY NOTED - PRODUCTS**

Telecomworldwire , p N/A

June 10 , 1998

ISSN: 1363-9900

Language: English Record Type: Fulltext

Article Type: Article

Document Type: Newsletter ; Trade

Word Count: 131

Text:

TELECOMWORLDWIRE-- (C) 1994-8 M2 COMMUNICATIONS LTD

Xylan Corporation has made available features that expand service provider opportunities for OmniSwitch to include xDSL cable modem and high speed data networking services. The new features include Ethernet port mapping, Authentication Services and support for 802.1Q packet tagging.

VeriFone's vWALLET Internet payment solution has achieved compliance with SETCo's Secure Electronic Transaction standard, becoming the first product to do so.

Intel has introduced the Intel Celeron 300MHz processor which is compatible with a range of basic PC motherboard designs.

Compaq Computer Ltd has announced price cuts between 20 and 32% on desktop and notebook products, flat panel monitors and desktop memory modules.

Intel has taken US\$500 off the price of its ProShare Conferencing Video System 200, which will now retail at US\$999.

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Publisher Name: M2 Communications

Company Names: \*Compaq Computer Ltd.; Intel Corp.; VeriFone Inc.; Xylan Corp.

Industry Names: BUSN (Any type of business); INTL (Business, International); TELC ( Telecommunications )

Ticker Symbols: INTC; VFIC; XYLN

? s wallet(10n)internet(25payment

S13 0 S WALLET(10N)INTERNET(25PAYMENT

? s WALLET(10N)INTERNET(25n)PAYMENT

Processing

S14 1632 S WALLET(10N)INTERNET(25N)PAYMENT

?

?

? s s14 and data and packet

S15 16 S S14 AND DATA AND PACKET

? s s15 not (py=>2000)

Processing

Processing

Processing

Processing

S16 8 S S15 NOT (PY=>2000)

? rd

>>>W: Duplicate detection is not supported for File 625.

Duplicate detection is not supported for File 626.

Records from unsupported files will be retained in the RD set.

S17 6 RD (UNIQUE ITEMS)

? t s17/3,k1-6

17/3,K/1 (Item 1 from file: 15)

ABI/Inform(R)

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01673177 03-24167

**Digital money: Electronic cash may make sense**

Coates, Vary, Bonorris, Steven

Futurist v32n6 pp: 22-25

Aug/Sep 1998

ISSN: 0016-3317 Journal Code: FUS

Word Count: 2740

Text:

...cart and the World Wide Web as a giant mall. There is already plenty to buy-from software to automobiles, from specialty teas to statistical data-without leaving home. But how will you pay for your purchases?

Today, if you want or need to pay online, you'll probably key in...

...are still fearful of entering credit-card numbers online.

One thief stole over 100,000 creditcard numbers-issued by 1,214 different banks-by using "packet sniffers," viruslike programs that surreptitiously hunt through networks for specific chunks of electronic information like credit-card numbers.

The risk from a compromised credit card...

...so far are really like electronic credit cards. CyberCash, for purchases larger than those appropriate for CyberCoins, requires software that creates a gateway between the Internet and a credit-card company's authorization network. You send CyberCash your credit-card number, and CyberCash gives you an "electronic wallet" that records your transactions over the Internet, encrypts your payment, and sends it to the merchant. No encryption is needed for messages between customer and merchant.

First Virtual Bank (FVB) began offering digital money in

17/3,K/2 (Item 1 from file: 621)

Gale Group New Prod.Annou.(R)

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02235344 Supplier Number: 57607522 (USE FORMAT 7 FOR FULLTEXT)

Total System Services Unveils SureWallet, its Electronic Wallet Solution; Selects The Globeset BankTone Wallet For Electronic Wallet Capability.

PR Newswire , p 7201

Nov 17 , 1999

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

**Word Count:** 638

...million people are projected to be shopping on the Web by 2003, tallying up nearly \$1 trillion in purchases, according to studies published by International Data Corp. of Framingham, Mass.

"Consumers are rapidly adapting to the convenience of Internet shopping, and we are meeting their demands for secure and convenient electronic..."

...provides card issuers with a value-added service that is intuitive, quick, secure, and easily branded."

TSYS' SureTransact(SM) family of products includes:

- \* SureService(SM) -- Internet customer service
- \* SureApp(SM) -- Internet real-time credit decisioning and application
  - \* SureMessage(SM) -- Packet-based messaging for TSYS processing systems
  - \* SureRemit(SM) -- Internet bill presentment and payment

\* SureWallet(SM) -- Internet issuer-branded digital wallets

TSYS has joined Globeset's channel partner program and will distribute the Globeset BankTone(TM) Wallet worldwide to financial institutions. The server-based Wallet allows issuers to certify their creditworthy customers prior to each transaction, and safely store critical consumer data, such as card numbers and passwords behind ultra-secure server-side firewalls. Merchants, issuers and backing financial institutions all benefit from increased security, a reduction in fraudulent use, and reduced transaction abandonment.

"TSYS is one of the world's largest and most influential data management and transaction processors. We are extremely pleased to win TSYS' endorsement through the integration of Globeset Wallet technology into the TSYS e-commerce product..."

...information, visit us on the Web at: <http://www.globeset.com/>  
About Total System Services

TSYS is one of the world's leading processors of data and transactions for domestic and international issuers of credit, debit, commercial and private-label cards. TSYS' sophisticated systems offer online accounting, data processing, electronic commerce services, portfolio management, account acquisition, credit evaluation, risk management and customer service. Through our family of companies, TSYS services the entire lifecycle...

**SIC Codes:**

7372 (Prepackaged software); 7374 (Data processing and preparation

**NAICS Codes:**

51121 (Software Publishers); 51421 (Data Processing Services

17/3,K/3 (Item 1 from file: 636)

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04491514 Supplier Number: 57647728 (USE FORMAT 7 FOR FULLTEXT)

**DURLACHER: Mobile operators poised to revolutionise In Internet.**

M2 Presswire , p NA

Nov 19 , 1999

**Language:** English **Record Type:** Fulltext

**Document Type:** Magazine/Journal ; Trade

**Word Count:** 870

...Veerse, Manager of Durlacher Research's European operation, demonstrates that mobile operators are ideally positioned to lead the m-commerce market. They possess comprehensive customer data including demographics, calling patterns and a detailed customer profile as well as an existing billing relationship. Durlacher's report examines how, in the near future...operators will move decisively into the banking sector either by acquiring banks or banking licences in 2001. Mobile phones incorporate ideal features for ensuring electronic payment and Durlacher's report predicts that it will, in effect, become the "electronic wallet" in Europe.

\* The initial killer application for mobile internet services will be email, based on the current success of SMS (Short Message Service), which is necessary to pave the way for more transactional m-commerce services. Instant messaging from the mobile phone will start to substitute email as GPRS (General Packet Radio Services) arrives. Unified messaging will become mainstream technology by 2001.

\* Smartphones will become the standard mobile device from 2002 onwards. These devices will include...CONTACT: Falk Miller-Veerse Tel: +49 228-9696 1723 e-mail: falk@durlacher.com

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17/3,K/4 (Item 1 from file: 16)

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07039902 Supplier Number: 57162618 (USE FORMAT 7 FOR FULLTEXT)

**AMERICAN COMPANIES IN JAPAN.**

Japan-U.S. Business Report , n 357 , p NA

June , 1999

**Language:** English **Record Type:** Fulltext

**Document Type:** Newsletter ; Trade

**Word Count:** 16446

...are touting its bandwidth and flexibility, saying that the combination makes the new line ideal not only for such traditional mainframe jobs like running corporate data bases and on-line transaction processing but also for In-ternet-based businesses. IBM JAPAN LTD.'s main-frame marketing unit is pitching the S...a year after forming a Japanese subsidiary, M-SYSTEMS FLASH DISK PIONEERS LTD. has won a breakthrough order for its FFD (fast flash disk) data storage device from a communications carrier de-scribed only as a first-tier company. The order, to be de-livered over three years, consists of...

...New-ark, California-based M-Systems attributed the win, which could be worth close to \$3 million, in large part to the reliability of its data storage device compared with traditional hard disks and, as a result, the lower costs of ownership.

Demonstrating its newfound commitment to serve the storage requirements...

...boost sales of its proprietary Unix serv-ers in Japan. Its subsidiary has contracted with SONY MARKETING (JAPAN) INC. to sell SONY CORP.'s digital data tape drives and automated tape libraries to television broadcasters and computer graphics busi-nesses, the company's mainstay customers. Included in the deal are Sony...what it calls Intel-ligent Vision Network products. The San Luis Obispo, California start-up develops intelligent video process-ing and compression technologies for distributed data networks. Its IVN products have potential for extend-ing, enhancing or replacing human vision for image un-derstanding in a variety of both simple and...is based on the PowerPC architecture. However, IBM is incorporating enhancements specifically sought by Nintendo, including extra on-chip memory and more effi-cient data management between the processor and the game system's graphics chip. Nintendo expects to launch its code-named Dolphin console in time for the 2000...Japan (see Japan-U.S. Business Report No. 346, July 1998, p. 19).

Bedford, Massachusetts-based AWARE, INC., a big player in the high-speed data transmission xDSL (digi-tal subscriber line) business, has licensed its G.992.2 standards-based G.Lite technology and software to NEC CORP. The semiconductor...

...tober, the part will be marketed worldwide to commu-nications and networking system providers and to mo-dem manufacturers. Aware's G.Lite technology delivers data transmission speeds of up to 1.5 megabits per sec-ond downstream and as fast as 512 kilobits per second upstream at distances up to 24,000 feet. The main ad-vantage of DSL technology is that it enables broadband data transmission over existing telephone lines without interrupting regular phone service.

In a product release that should help move the con-cept of home networking in...City, California has opened an office in Tokyo to promote its ECnet supply chain manage-ment service. ECnet, which melds seamlessly with tra-ditional electronic data interchange systems, handles price checks, order placement, shipping and billing through the Internet. With installation costs as low as \$5,000 and monthly fees of...

...COMPUTER CORP.'s subsidiary and KDD CORP. have reengineered the American

firm's MilliCent electronic commerce transaction settlement system to facilitate small purchases over the Internet. To address consumers' concerns about privacy and security, MilliCent uses a "digital wallet" system, which safely stores credit-card, bank account and other sensitive personal information on a secure server. The modified e-commerce payment system will be featured first on a 15-store Internet mall run by a KDD affiliate. It will be the first time MilliCent is commercially deployed.

A complementary Internet security program comes from VERISIGN, INC... Europe.

Through its subsidiary, APPLE COMPUTER, INC. localized the latest version of its intranet server suite, AppleShare IP 6.2. The package includes application and data base services as well as file, print and e-mail modules. It also offers much-improved performance over TCP/IP and mixed protocol networks. AppleShare...of its storage hardware and software down to midsized businesses that use IBM AS/400 systems. In

conjunction with EMC's TimeFinder and Symmetric Remote Data Facility, CopyPoint allows AS/400 systems to read off-site copies of production system data as if they were the originals, helping to ensure continuous computer services. EMC's subsidiary priced CopyPoint from \$54,700.

Challengers in the corporate data storage arena continue to emerge, such as VERITAS SOFTWARE CORP. Along with marketing partner TOKYO ELEC-TRON LTD., the Mountain View, California firm is of...

...SOFTWARE, INC. and HITACHI, LTD. They have agreed to jointly develop and market storage solutions that offer enterprise customers fast backup and high-level data-sharing solutions for heterogeneous environments.

These products, to be released throughout the year, will be marketed via each partner's distribution channels. Houston...

...No. 356, May 1999, p. 27).

Competition in this market segment is hot, however.

For instance, INFORMATICA CORP. is rolling out a pair of data warehouse products in partnership with MITSUBISHI ELECTRIC CORP. The new business allies will adapt for the local market the Palo Alto, California firm's PowerCenter - an enterprise data integration hub that enables large organizations to easily transform legacy, relational and enterprise resource planning data into reliable information for business analysis - and its PowerMart integrated tool suite for designing, deploying, managing and maintaining line-of-business data marts and analytic applications. MEL-CO then will bundle Informatica's products with its own DIAPRISM hardware/software data warehouse fast sorting and data base scanning technology. The English-language version of the package will be available in mid-September. A Japanese-language release will follow at an unspecified date.

To keep track of the vast number and variety of information stored in a data warehouse and temporary information created by data base and other applications, NCR CORP.'s local unit wrote Teradata MetaData Services.

MDS gathers, indexes and makes available the torrent of information tidbits...

...sell 1,000 MDS systems a year.

IBM JAPAN LTD. now is shipping a localized version of the latest release of the venerable DB2 data base.

DB2 Universal Database v6.1 offers new features to meet the rapidly changing needs of corporate customers: support for Java, connectivity with ERP...

...that costs \$860 and up and an enterprise package priced from \$10,700.

Through its subsidiary, SYBASE, INC. has released an update of its relational data base management system, Sybase Adaptive Server IQ12. Priced from \$41,200 (a three-user license for Windows NT environments) to \$71,200 (a five...

...for Unix systems), the RDBMS has been thoroughly reworked with enterprise decision support in mind. The new package sports greatly increased scalability to backstop large data warehouses as well as big user populations.

Data base heavyweight ORACLE CORP. is not taking these developments lightly. Its subsidiary has introduced packages that keep the company's flagship Oracle8...

...intelligence front-end applications for Oracle8 and Oracle8i that are Internet-savvy and accessible to nontechnical users yet harness all the power of the underlying data base systems.

Developing and delivering business-knowledge solutions is the aim of

a new three-year pact between DATATWARE TECHNOLOGIES, INC. and FUJITSU...

...and by developing a reseller network. The first module to be rolled out will be Knowledge Query Server Japan, which enables collaborative searches of data warehouses as well as searches of Internet-based resources. Fujitsu Business Systems also ...high-precision clock and timing engineering analysis package from AMHERST SYSTEMS ASSOCIATES, INC. The Amherst, Massachusetts firm's M1 Time-Interval Measurement Standard and Serial Data packages run on Windows-based PCs, yet they can conduct sophisticated analyses of factors that produce even tiny errors in the high-speed clock systems that are critical to modern computers and data communications systems.

ASA's products will be distributed and supported exclusively by TOYO CORP. It expects to sell between 100 and 200 copies of...

...by releasing an update in July. 1-2-3 2000 offers improved compatibility with Microsoft's Excel spreadsheet and Word word-processing programs, bigger data sheets and premade sheets for business applications.

The new program also is Internet-savvy, being able to upload and download data from the Web with just a few mouse clicks. As a

standalone product, 1-2-3 2000 will retail for \$165, but it is a...a mid-July introduction date.

Helping to fuel the rapid advances in Japan's mo-bile communications market, QUALCOMM INC. has delivered its high-speed packet data solution to manu-facturers of CDMA digital handsets. A complement to the company's MSM3000 baseband chipset, the MSM3000 system software enables suppliers to big...

...second without new or additional hardware. Before the end of this year, DDI and IDO (as it is generally known) expect to enable high-speed packet data for subscribers to their cdmaOne services.

#### TELECOMMUNICATIONS

Japan has a new facilities-based communications carrier, the eighth authorized by the Ministry of Posts and Telecommunications...

...technolo-gy underlying XePhion with Cisco's VoIP (voice over IP) and IP/TV know-how in order to deliver quality au-dio, video and

data

over fiber-optic networks to corpo-rate Japan. The new partners also intend to move into the technical training field by commercializing products that integrate...

...tie-up is equip-ment based on Cisco's MPLS (multiprotocol label switching) technology, which is optimized for the low-cost transmission of massive multimedia data files. The partnership extends beyond marketing hardware and related software to customizing high-throughput com-munications networks for clients and maintaining and managing these systems...

...s frame-relay services. These services are locally supported in close to 50 countries. ....On a differ-ent level, EQUANT, a major source of managed data network services for global businesses worldwide (see Japan-U.S. Business Report No. 353, February 1999, p. 29), has won a contract from TOMEN CORP. to supply data networking services in more than 24 countries. By July, frame-relay services will be available to support To-men's global e-mail and corporate...compres-sion technology for frame-relay networks.

Users of handheld or palm-size computing devices running the Windows CE operating system now can ac-cess data and information on corporate networks thanks to the CompactCard Ethernet 10 from the marketing unit of XIRCOM, INC. The first such product from the international...

...CE-based Com-pactCard, priced at \$170 or so, provides high-speed con-nections to 10-Mbps networks for e-mail access, Internet browsing and data synchronization.

Continuing a recent string of design wins in Japan, EXTENDED SYSTEMS, INC. has landed a contract worth more than \$2.5 million over the...

...volume order for the handheld computer from a convenience-store chain that plans to use it as an advanced point-of-sale product for better data management and increased efficiency.

The latest LUCENT TECHNOLOGIES INC. wire-less LAN product to be marketed in Japan by NCR CORP.'s subsidiary is the...

...Turbo. This \$800 system is being advertised as a two-in-one product.

For office settings, it has a high-speed mode that provides data transmission rates equivalent to those of wired Ethernet LANs. In standard mode, the Wave-LAN/ IEEE Turbo offers extended range, making it suitable for...

17/3,K/5 (Item 2 from file: 16)

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05293923 Supplier Number: 48061165 (USE FORMAT 7 FOR FULLTEXT)

### Getting SET

Jackson Higgins, Kelly

InternetWeek , p 83

Oct 20 , 1997

Language: English Record Type: Fulltext

Document Type: Newsletter ; Trade

Word Count: 2469

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- Authenticate in '98. Update SSL unless you and your trading partner are really tight and truly trust one another...

...run over EDI or E-mail-based messages. But don't forget that S/MIME and PGP rely on the client machine to disguise the data, so your end users have to know how to encrypt and decrypt. As a bonus, your data remains secured after the transaction because S/MIME stores data in an encrypted format.

- Keep an eye on the Big Three automakers. The auto industry's ANX project could propel the IPsec protocol into mainstream...

17/3,K/6 (Item 1 from file: 20)

Dialog Global Reporter

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08308985 (USE FORMAT 7 OR 9 FOR FULLTEXT)

DURLACHER: Mobile operators poised to revolutionise Internet

M2 PRESSWIRE

November 19, 1999

Journal Code: WMPR Language: English Record Type: FULLTEXT

Word Count: 862

(USE FORMAT 7 OR 9 FOR FULLTEXT)

...Veerse, Manager of Durlacher Research's European operation, demonstrates that mobile operators are ideally positioned to lead the m-commerce market. They possess comprehensive customer data including demographics, calling patterns and a detailed customer profile as well as an existing billing relationship. Durlacher's report examines how, in the near future

...

...operators will move decisively into the banking sector either by acquiring banks or banking licences in 2001. Mobile phones incorporate ideal features for ensuring electronic payment and Durlacher's report predicts that it will, in effect, become the "electronic wallet" in Europe.

\* The initial killer application for mobile internet services will be email, based on the current success of SMS (Short Message Service), which is necessary to pave the way for more transactional m-commerce services. Instant messaging from the mobile phone will start to substitute email as GPRS (General Packet Radio Services) arrives. Unified messaging will become mainstream technology by 2001.

\* Smartphones will become the standard mobile device from 2002 onwards. These devices will include...

...LTDCONTACT: Falk Miller-Veerse Tel: +49 228-9696 1723 e-mail:  
falk@durlacher.com

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17/9/5 (Item 2 from file: 16)

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05293923 Supplier Number: 48061165 (THIS IS THE FULLTEXT)

### Getting SET

Jackson Higgins, Kelly

InternetWeek , p 83

Oct 20 , 1997

ISSN: 1096-9969

Language: English Record Type: Fulltext

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Word Count: 2469

Text:

Ready, SET, charge it? Not quite. The industry is poised to make credit card transactions safe from cyberthieves, but securing business-to-business transactions over the Internet is still several months off.

As the industry vies to develop standards that make the Internet safer for commerce, much of the focus is on the consumer-oriented Secure Electronic Transaction (SET) protocol.

SET, which encrypts and authenticates credit card information over the Internet, may be the closest the industry's come to secure electronic commerce since the dedicated line. And SET is backed by the heavyweights of banking, finance and retailing. American Express Co., Chase Manhattan Bank, Mellon Bank Corp., Wal-Mart and SET's developers, MasterCard and Visa, are all running SET pilots that go live in early 1998.

This is great news for consumers and businesses looking to jump into Web-based retailing. But if you want to pay your supplier for those widgets, or negotiate a contract over the Internet, the options for securing the transaction remain slim.

Sure, there are security protocols that encrypt pieces of a business transaction. Two that come to mind are RSA Data Security Inc.'s S/MIME (Secure Multipurpose Internet Mail Extensions) and Pretty Good Privacy Inc.'s PGP for disguising E-mail messages. Others include the Internet Engineering Task Force's IPsec protocol for protecting the network link itself and the Secure Sockets Layer (SSL) protocol built into Web browser and server software that encrypts Web sessions. The problem is, none of these protocols were developed to support business-to-business transactions.

"There just aren't enough tools in the toolbox," says Robert Moskowitz, a member of the Internet Architecture Board and a software specialist for Chrysler Corp. ([www.chrysler.com](http://www.chrysler.com)), the \$3.5 billion automaker based in Dearborn, Mich.

#### Insecure Business

Even E-commerce software vendors are frustrated with the lack of protocols for securing core business on the Internet. "What happened to the large-dollar transaction? There has to be a business transaction protocol, but there's no standards body addressing it right now," says Mary Van Zandt, director of marketing for Sterling Software Inc. ([www.sterling.com](http://www.sterling.com)), Irving, Texas, one of the biggest electronic data interchange (EDI) software makers.

But don't blame SET. The new protocol was designed specifically for consumers who want to buy merchandise on the Internet with their credit cards-no more, no less. Even so, SET may eventually be expanded to accommodate corporate credit card transactions, so the employee in purchasing can buy pencils and maintenance supplies with a corporate card, too.

There's also talk of SET being built into standard browser software, so configuring your business for SET may eventually be as easy as upgrading your browser.

Even after a few false starts, slow-moving software development and interoperability troubles, SET already has done what no other security technology achieved before-it's given encryption and authentication a commercial spin.

One of the more attractive features of a SET transaction is that the merchant doesn't always get the cardholder's credit card number, unlike SSL, the encryption method developed by Netscape. Instead, the cardholder presents the retailer with a Visa digital certificate when ready to charge an item. Once SET catches on, cardholders will have multiple digital certificates-one for each card they hold, be it a Visa, MasterCard or American Express.

Of course, there is a way for a merchant to request that the credit card account information be sent back after the initial transaction by the buyer. That happens outside of the SET process.

"Merchants are used to having that information for chargebacks and retrievals," says Tom Butler, first vice president for product development at Pittsburgh-based Mellon Bank's network services division ([www.mellon.com](http://www.mellon.com)). It's up to the traditional credit card authorization service, such as Global Payment Systems ([www.globalpayment.com](http://www.globalpayment.com)), Atlanta, whether to send that information back to the merchant after the credit check, he says.

Obtaining a digital certificate for a personal or corporate credit card will be fairly easy. The cardholder simply fills out a form at either the bank's Web site or at a so-called trusted third party's Web site, like GTE Corp.'s CyberTrust service ([www.cybertrust.gte.com](http://www.cybertrust.gte.com)), which then issues a SET-compliant digital certificate that confirms the credit card is legit. Certificates last for about a year or two.

There are three main components in a SET transaction: The buyer's electronic "wallet," the merchant's server software and the credit card company's Internet payment gateway. Electronic wallet software runs on a client browser and holds the digital certificates, while the merchant server software runs on a Windows NT or Unix machine. The Internet gateway software is the credit card company's server, also typically an NT or Unix box.

Here's how a consumer would use SET to charge that nifty new canoe from L.L. Bean on a Visa card. First, he digs his Visa digital certificate out of his electronic wallet, which runs on his browser in a Visa card icon. After the cardholder clicks on the payment button, SET kicks in. The cardholder's software generates two keys-one that encrypts an order and another that encrypts credit card payment information-both are sent to L.L. Bean's merchant server.

L.L. Bean decrypts the order information, which is wrapped up with its public key and digitally "signed" by the buyer. From there, the merchant server sends the digital certificate containing the credit card information to Visa's Internet gateway, which decrypts that account information. Now the traditional credit card authorization process takes place. That's done off the Internet over leased lines-mostly because that's the way it's always been done-in a highly secure fashion. Today, the entire SET process, plus the back-end credit card authorization, takes about 15 to 20 seconds.

"We are looking to reduce this as we get better at it," says Andrew Bartels, vice president of encrypted payments for New York-based American

American Express, which is running its own homegrown SET Internet gateway software in a pilot with Wal-Mart ([www.wal-mart.com](http://www.wal-mart.com)), Bentonville, Ark.

The reason SET is so slow today is that the software has dozens of encryption calculations to run through, says Bartels. "As SET gets more specialized and standardized, a lot of calculations will be off-loaded onto specialized computation devices to speed up the process," he says.

#### SET Sale

And SET won't just be for credit cards anymore, either. Look for Version 2 of SET—expected next year—to include debit card processing so consumers can make cash payments on the Internet.

SET's authentication feature may be its biggest selling point over the status quo, Netscape's SSL. Today, SSL only encrypts a communications session. "With SSL, both ends may know they are talking to each other, but if there's a dispute, there's no way for a merchant to prove that he's truly who he says he is," says David Solo, director of technology for network-centric solutions at BBN Planet, now a division of GTE Corp.

SSL wasn't designed specifically for financial transactions, either. It was more a generic protocol for securing a session, for example, to fill out a form online, says Steve Crocker, CTO for CyberCash Inc. ([www.cybercash.com](http://www.cybercash.com)), which plans to release SET-based electronic wallet software next year.

Not that SET is perfect. It authenticates the credit card account, not the person charging merchandise with it, which could prove to be a problem for corporate credit card purchases.

"SET digitally identifies the card, not the user. That's the way credit card companies have always done it, where they are not taking responsibility for you using your card, but for the account itself," says Andrew Herbert, chief technology officer for APM Ltd., a Cambridge, England, consultancy. "That won't work in the corporate purchasing model. You must know who is using the card because there's a relationship between cards and people and budgets."

In many minds, SET still has a long way to go. The early pilots have highlighted other shortcomings of the SET spec, namely that it tends to be too general and leaves much of the interpretation up to the vendor. That's caused interoperability troubles among SET software products, and has slowed the adoption of SET among financial institutions. "There is some frustration among those involved with SET that it's taking longer to get in place than was expected," says American Express' Bartels.

That's not surprising given SET's roots as a peace treaty that came out of rival efforts by MasterCard/Netscape and Visa/Microsoft.

Once the technical kinks are resolved, the big challenge for SET may be dispelling the bugaboo of the Internet's inherently unsafe image. Most "netizens" still consider E-commerce no more secure than giving a telemarketer a credit card number over the phone—and about 70 percent of Internet users surveyed by Global Research Inc. recently said just that.

#### Do You Mime?

So while all eyes may be on SET, S/MIME, PGP and IPsec are the only protocols today that can secure business transactions.

The problem is no one is sure which direction secure messaging will go. S/MIME was a shoo-in until S/MIME developer RSA Data Security

initially refused to give up control of the spec. Now a new version of S/MIME, Version 3.0, is under discussion at the IETF. PGP, traditionally more of a personal security protocol, has gone more corporate and is also on the IETF standards track.

S/MIME, so far, has the commercial edge-it's already tucked into Netscape's browser, for instance, and Microsoft, Lotus and Novell all have plans for S/MIME messaging. S/MIME is also the key protocol in Templar, an Internet EDI product marketed by Premenos Technology Corp. The company also plans to pack PGP into Templar.

#### S/MIME places

data in an encrypted envelope for its journey over the Internet, and the data remains secure even after the transaction because S/MIME stores it in its encrypted format. "There are valid reasons to use S/MIME on mail messages," says Chrysler's Moskowitz. "It means you have secured data in the long term."

Secured data is a big issue for the automobile industry, where industrial espionage is a reality and not just the stuff of hacker fantasies. That's why S/MIME may eventually be included in the auto industry's planned Automotive Exchange Network (ANX) pilot, an Internet-based extranet of sorts for the Big Three, their suppliers, competitors and anyone and everyone who sells anything related to a car.

The banking and financial community is also starting to take a serious look at S/MIME. Chase Manhattan runs Templar for its Internet EDI service, which lets its commercial customers-like petroleum giant Ultramar Diamond Shamrock Corp. ([www.diasham.com](http://www.diasham.com)), San Antonio-pay its suppliers over the Internet.

"We provide a secure gateway that's an alternative to an EDI VAN or private direct link," says Jeanine Khoury, a vice president at Chase Manhattan, which has \$352 billion in assets. Chase plans to extend the S/MIME service to non-EDI type transactions, too, and hopes to use it for letters of credit and remittances for the accounts receivable side of a transaction.

IPsec is also on the IETF standards track. Its job is to ensure privacy of the data and authenticity of every packet that goes over the wire, but not to authenticate the users. That's why IPsec likely will be implemented with protocols like S/MIME or SET.

"How do I know I can trust the person at the other end? Establishing trust is the key piece for business-to-business and extranet transactions," says Dave Dawson, general manager of Ascend Communications Inc.'s network security business unit, which sells IPsec-based firewall software called SecureConnect.

IPsec is being added to other firewalls, too, like Gauntlet from Trusted Information Systems and in virtual private network software, like TimeStep Corp.'s Permit for securing a VPN over the Internet. While the standard is still not complete-in these first test versions, you have to load keys manually from diskettes for each transmission-it may be a core element of early business-to-business transactions on the Internet.

IPsec will surely get its chance to shine during the ANX project, which is testing the new protocol. Many believe IPsec is ideal for the auto

industry because it can support any higher-level protocols above it, including legacy protocols like TN3270 that are common in the auto industry.

But IPsec is just one level of security for businesses that are serious about E-commerce. The trading partners on ANX in the future will be able to mix and match other security protocols, like S/MIME, or even SET for corporate credit card purchases. Securing the pipe was just the first step.

The bottom line is no one security protocol can do it all—not SET, SSL, S/MIME or IPsec. "There is a distinction between secure data and secure communications," says Chrysler's Moskowitz. "Down the road, you will need both. Those who do just one will be shooting themselves in the foot."

So, while the Internet isn't fully secure for business transactions, it's safer than it's ever been. SET and the other standards are trying to provide the security blanket Internet customers long for.

Kelly Jackson Higgins is a freelance computer journalist based in Stanardsville, Va.

#### SIDE BAR: TECHtips

##### Secure Electronic Transactions

Don't be fooled by all the hype about SET—there is no such thing as airtight security. But if you pick the right protocol for the right job, you can do business over the Internet with some peace of mind. Here are a few pointers:

- Understand SET's limitations. The only business application for SET is for Web merchants, banks and credit card companies such as Visa, MasterCard and American Express. Unless you fall into those categories, the only use you'll have for SET right now is for Christmas shopping. And remember, even with SET, nitty-gritty back-end data processing is executed on private networks.

- Authenticate in '98. Update SSL unless you and your trading partner are really tight and truly trust one another. Without authentication, you really can't be sure you can prove that your transaction was what it was supposed to be. Encryption is mandatory now for sensitive transactions and communications. So is verifying identities.

- It might be time for S/MIME. Or PGP (Pretty Good Privacy) if your business transactions run over EDI or E-mail-based messages. But don't forget that S/MIME and PGP rely on the client machine to disguise the data, so your end users have to know how to encrypt and decrypt. As a bonus, your data remains secured after the transaction because S/MIME stores data in an encrypted format.

- Keep an eye on the Big Three automakers. The auto industry's ANX project could propel the IPsec protocol into mainstream business. Run IPsec if you need to encrypt those virtual private network tunnels. Besides, what's good for General Motors', Ford's and Chrysler's routers and remote access devices just might make for some good commercial IPsec implementations.

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**Internet billing starts ticking**

Barbetta, Frank

Telephony v234n25 pp: 20-28

Jun 22, 1998

**CODEN:** TLPNAS

**ISSN:** 0040-2656 **Journal Code:** TPH

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**Special Feature:** Charts Diagrams

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**Abstract:**

Today's Internet flat-fee pricing structure gives Web surfers unlimited access. This unique circumstance in uncomplicated bills that bear little resemblance to the monthly bills that local and long-distance carriers churn out like clockwork, specified down to pennies and fractions of minutes. The inadequacy was based on limited programming resources, namely money and people. However, more significantly, the Internet protocol packet communications infrastructure did a poor job of tracking and generating the appropriate data to accurately measure usage for customer billing. These limitations are slowly disappearing, giving way to usage-based billing. For more than a year, economists and some analysts have been predicting the change as an economic necessity. Billing software is now handling - or expected to handle - pricing for many services based on users' payment-method profiles or corporate-established preferences, priorities and privileges.

**Text:**

Today's Internet flat-fee pricing structure gives Web surfers unlimited access. This unique circumstance results in uncomplicated bills that bear little resemblance to the monthly bills that local and long-distance carriers churn out like clockwork, specified down to pennies and fractions of minutes.

The differences were initially sound in theory. Strategic considerations dictated that carriers launch on-line offerings as fast as possible without waiting for billing software to catch up. Complex billing was unable to handle "pay as you go" service introductions on the Internet.

The inadequacy was based partly on limited programming resources, namely money and people. Yet more significantly, the Internet protocol (IP) packet communications infrastructure did a poor job of tracking and generating the appropriate data to accurately measure usage for customer billing.

These limitations are slowly disappearing, giving way to usage-based billing. For more than a year, economists and some analysts have been predicting the change as an economic necessity.

This is because carriers Internet service providers and those acting as both are increasingly using or talking about IP telephony for voice and fax. This interest is inspiring software and hardware suppliers to develop billing solutions.

IP-based telephony is a prime example of how the excitement behind usage-based service pricing can be generated at the same time as proper billing mechanisms-in this instance for call duration. Indeed usage-based services and robust billing support are expected to continue as a trend trend in parallel. Billing software is now handling-or is expected to handle-pricing for many services based on users' payment-method profiles or

corporate-established preferences, priorities and privileges. Among those services are least-cost routing, time of day routing, dynamic bandwidth allocation, volume discount rates, callback, security enhancements,

Web hosting, e-mail, chat lines, whiteboards, videoconferencing, work group collaboration and multimedia sessions, software applications distribution, applications rental and classes of service quality.

Ultimately, the sweet spot for many carriers Web-enabled presentation and electronic payment of telephone bills--will also embrace one-to-one marketing of pay-per-use and subscription services, including on-the-spot discounts. Users may sign on for services via Internet sites already handling bill presentation and payment; system integration would allow links back to operations support systems (OSSs for provisioning and subsequent billing).

Although such sophistication remains a long-term prospect, the head of CyberCash's PayNow secure electronic check service is among those who see Web-enabled bill presentation and payment leading to real time interaction marketing, provisioning and billing of other offerings and services. "There is a vast cross-selling opportunity for carriers" says Richard Crone, vice president and general manager of CyberCash's PayNow secure electronic check service. "The bill is the brand. IP is like the pay phone of the future in terms of pay-per-use services, but it is not limited to voice calls."

#### Reality hits the Internet

Some question whether such intricate billing is needed and note the irony that flat-rate billing is the driving force behind the explosion in IP-based services.

"If we start to meter every packet, do we lose something with respect to the Internet? Do we lose a little bit of the initial perks behind the Internet? Or can the new services support new markets that can cover costs and produce profit from a network's expensive delivery and trunking?" asks Larry Greenberg, vice president and chief information officer at Princeton TeleCom Corp., a transaction processing service provider and consultancy in Princeton, NJ.

Yet Greenberg acknowledges that flat-rate billing no longer works with large corporate users and telcos seem eager to use their billing standbys with a new medium.

"Do service providers want to provide telco-grade billing? I think the answer is 'Yes, we do.' In my view, telco-grade implies quality of service and its link to billing--the ability to monitor and charge premiums for quality," says Shoshana Loeb, executive director of Internet and information technologies research at Bellcore. "Yet it is an open issue whether people will demand this."

Many technical challenges must be tackled first. Foremost are extrapolating and scrubbing down traffic information from routers and switches and

matching that against customer account data for bills. This involves tracking packet volumes, counting bits or bytes and logging origination and destination IP addresses. The distributed architecture of the Internet's routing and switching infrastructure also presents a

challenge.

"There is no one switch that knows about calls," says Loeb. "The information has to be assembled. In the future, more support will have to be given to the Internet end points to gather data." This will lead to more complicated issues and may change the general conception of billing. "Instead of back-office billing, this will have to be distributed up-front and associated with real-time customer interaction for per-use and subscription services. We will need more dynamic billing on the fly," she says.

Also to be tackled are systems integration and applications interface tasks that exchange information between incompatible and sometimes proprietary software in routers and switches, servers, gateways, security systems, billing systems platforms and computer databases.

(Photograph Omitted)

Historically, carrier staffs have written their own instruction code for such OSS functions as operations, administration, maintenance and provisioning (OAM&P). Services such as voice, ISDN, frame relay and asynchronous transfer mode may already have distinct OSSs in place.

Further, most carriers have homegrown or thirdparty legacy billing systems, and workers from both camps don't know enough about resident code to incorporate or consider IP billing initiatives.

"At times, you have to go on bended knee to the glass iron house of mainframes to make changes, although it can be done rather swiftly and the carriers are now rushing to catch up," says Crone. "In reality, almost all Internet service billing is currently done on homegrown systems. It's the Wild West out there, and few vendors have really established themselves," says Hilary Mine, service vice president at Probe Research. "The homegrown systems take advantage of router or [remote access server] operating system software to collect data and then manipulate it for billing purposes."

#### Players take different tacks

Nevertheless, IP software and hardware vendors are working on billing support.

Early this year, Hypercom Network Systems started marketing high-density gateway products and a suite of related IP telephony features, including central office and point-of-presence solutions that stream call records to external systems for accounting and billing.

"IP billing may be complex itself, but no more than current systems," says

Jon Young, vice president of product development at Hypercom. "Trunking distances are a bit of an issue regarding end points, bandwidth and routing, but quality of service and differentiators are the main factors here. Once the carriers decide what they want to do, that is the market driver, and the billing software will do what they want."

One company is already touting a new model based on the payload to be sent over the Internet.

Whether network use is light or heavy is the discerning factor, and counting bytes has a direct correlation, says John Stewart, director of systems engineering at Digital Island, a carrier and IP service provider with operations in Hawaii. "Use more, pay more, although customers can buy in bulk, too," he says.

Mine's sampling outlines a variety of solutions. She puts them in three categories:

Offerings specific to network equipment but evolving into end-to-end management.

Outright billing, accounting and customer care.

Bandwidth management-often hardware-based and some ostensibly able to differentiate usage by application.

Vendor support is needed to maintain complex billing, while systems integration is often recommended to link the various offerings.

Pre-packaged solutions fill the gap

Many vendors believe about 75% of the cost for IP billing systems can be covered right out of the box, and the rest would be for systems integration. Some suppliers suggest that a middle ground exists by providing a set of core products to service providers while supporting applications program interfaces to their OAM&P legacies and other OSS installations. Service providers have been building their own solutions and, to a certain extent, may want to leverage that work, but they are now looking to buy pre-packaged solutions.

Delta Three, an RSL Communications subsidiary and an

Internet

telephony service provider, recently began deploying Ericsson's Internet Protocol Telephony Solution for Carriers, an NT platform for IP telephony with an operations and maintenance facility that can update and control multiple gateways for phone-to-phone, faxto-fax and PC-to-phone services.

The platforms support real-time billing with fraud prevention and call-duration advice with integrated voice response software, as well as support for least cost routing and dynamic route allocation.

"We are integrating our call detail records with the Ericsson system and want to collect as much data as possible above what is normally associated with standard telephony," says Noam Bardine, Delta Three vice president of technology and operations. "In IP services, more information is expected to be needed in the future. We can define quality of service to customers; work out top-dollar, tollgrade terms, specific types of codecs and amount of bandwidth; track which network the traffic goes over; and match any of this to [call detail records] with billing."

(Photograph Omitted)

Captioned as: Young

(Chart Omitted)

Captioned as: FIGURE 1

Cisco Systems' effort to address new IP markets such as telephony and multimedia also underscores suppliers' aims to coordinate billing solutions. A late April agreement with Hewlett-Packard Co. debuted the Internet Usage Platform, which highlights billing and analysis solutions, with Cap Gemini acting as prime reseller and systems integrator.

MCI will be the first carrier to evaluate and test the platform. Although MCI has not elaborated, a company spokesman said the carrier plans to start testing usagebased billing.

"MCI is not certain of the production implications, but every carrier we have talked to recognizes that the ability to differentiate tiered services, based on a 'pay by the drink' model, is significant," says Cisco's John Moore, global alliance manager. Cisco sees usage billing as a key enabler behind rich portfolios of new service offerings.

In the Cisco/HP arrangements, NetFlow software resident in Cisco 7000 and Catalyst 5000 systems generates IP traffic details to FlowCollector servers (Figure 1). The data is then aggregated and correlated to user account information by HP's Smart Internet Usage systems-PA/RISC-based 9000s running HP's UX version of Unix-which are integrated with Cisco equipment and software. The subscriber usage data comes from across IP network operators' infrastructure.

"The greatest challenge in IP usage billing is metering every flow and looking for the billable value add in the flow. There is lots of information," says Moore. "How often the data is collected is up to the service provider to fine-tune. It can be every five minutes to every hour. Updates can be hourly or daily That depends on the service provider."

These lag times are considered near real-time, but the more pertinent real-time rating and billing of subscribers' network resources and IP service usage is left to partners' external software. Information is structured into an extensible Internet Data Record, which Moore says the two companies have developed and proposed as an open standard for

industry acceptance. The IDR-formatted information is fed into billing applications, starting with Cupertino, Calif.-based Portal Software's Infranet-designed specifically for the Internet and able to register, track, manage and bill subscribers (Figure 2). It runs on HP's UX, Sun's Solaris and Windows NT.

Because billing is a prime ingredient, Cisco and HP are also working out a similar deal with Kenan Systems, a Cambridge, Mass., supplier of Arbor Internet rating billing software for Unix-variation platforms such as Digital Equipment Corp., HP, IBM and Sun.

(Chart Omitted)

Captioned as: FIGURE 2

Separately, a few years ago Cisco made an equity investment in Solect Technology of Ottawa to support its Sun Solaris-based Internet Administration Frame rating and billing software. "Cisco takes many equity positions with the intention of developing markets," says Moore. "But in the big picture, we believe IP telephony is one of the key markets that will shape the future." Portal's target markets include Internet access businesses, next generation IP-based services such as Internet telephony and virtual private networks, and other consumer and business services such as content management, Web hosting, on-line gaming and entertainment.

Portal's steps into Internet telephony include previous teamwork with Cisco on carrier-class voice systems, a research and development alliance with IP voice software and gateway supplier VocalTec Communications Ltd., and an OEM agreement with SkyWave Inc., a developer of gateways and network management solutions for Internet telephony service providers.

The company's billing software is deployed primarily in two modes over the Internet:

First, it tracks log-ins, monitor infrastructure usage and match data to customer profiles to market discount offerings (such as U S West).

Second, it outright sells content, says Bassam Kahn, Infranet principal

product manager.

The latter includes National Westminster Bank, VerSign and ICL GamesZone, which charge for financial reports, security authentication digital certificates and game time, respectively. Other customers include Grolier On-line, France Telecom and Australia's OzEmail.

Work with Cisco and HP is strategic for billing businesses for Internet usage such as bandwidth capacity and Web hosting by

megabytes used. IP telephony is a new market opportunity represented by more than 40 gateway suppliers and emerging gatekeepers that authorize and authenticate users by personal identification numbers, translate phone numbers to IP addresses and keep call detail records.

Kenan added real-time usage rating (vs. the previous one- to 24-hour lag time), as well as Web tool kits and interfaces for customer access to billing records, to its core Arbor BP product to comprise the new Arbor/Internet version, introduced in late May, says Paul Varley, product manager.

This was part of a broad series of announcements, including a new Internet Business Unit under Director Tom Gramaglia and teaming relationships with American Internet Corp., NetCentric and Software.com on their network access management, IP fax, and carrierclass enhanced messaging server products.

In its announcements, Kenan pressed many of the market hot buttons for fee-based, usage-based and event-based pricing for emerging services, although officials said subscription-based pricing for standard services such as basic Internet access would remain. Among new services were IP telephony voice and fax, streaming audio/video and enhanced messaging. It touted customers' ability to bill for "complex product packages that combine rate plans, recurring and non-recurring charges with special discounts, credits and promotions for a single Internet service or across multiple services."

Kenan has more than 30 partners for its Arbor products, including Oracle, Sybase, Andersen Consulting, EDS, Ericsson, Price Waterhouse and Siemens, and the company lists common customers such as @Home Network, AT&T World.net, British Telecom, France Telecom, GTE Internetworking and WorldCom/UUNet.

From complexity, simplicity

Development efforts with Cisco as well as with Ascend's Cascade are aimed at refining and simplifying the IP data extraction from network equipment.

"The challenge for router and switching vendors is not necessarily one of compatibility with billing systems, but that their systems produce so much data that the level of granularity is too fine," says Kenan's Varley. "They log gigabytes of data on per-packet levels and it is often too fine to be useful for rating and billing."

(Table Omitted)

Captioned as: SELECTED MANAGEMENT SOLUTIONS FOR ISPS

Likewise, Felix Veski, vice president of marketing at Solect, outlines two issues in dealing with the mounds of data produced by network systems: Matching the IP address received with a customer account. Dealing with the

volume of information and aggregating it.

Solect also has relationships with the likes of Sun (including JavaSoft-related work), Netscape, Oracle, Nokia, Alcatel, Siemens and Software.com. Solect has about 50 installations, and the GlobalOne partnership among Sprint, Deutsche Telekom and France Telecom is a noteworthy reseller.

Veski sees Solect's billing market addressing IP connections, content and electronic commerce.

For Solect and possibly other similar custom contracts, Bellcore is planning an international carrierclass rating engine to securely deliver billing services over the Internet. To be integrated into Solect's IAF rating engine, it will support customized bundling and discounting of IP services.

"Analogous to experience with Java, a new next generation language deals with dynamic rulesbased rating as opposed to hardwired, table-driven code," says Veski. "That gives service providers flexibility with rate plans."

At the same time, Bellcore is preparing to unveil IP voice software products later this year for carrier class quality of service. Written with Java applets and CORBA middleware, the Intelligent Gateway Call Server will run under distributed Unix and NT platform environments, says Jac Simensen, vice president and general manager of Bellcore's Soliant Internet Systems Unit.

The IGCS product is expected to handle automated message accounting, management of call setup/ state/tear-down functions, open API software development and bridging the public switched network and Internet via SS7 and Class 4/5 switch emulation.

Elements of the product may appear as components in Sprint's recently unveiled Integrated On-Demand Network. i.e,

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**Geographic Names:** US

**Descriptors:** Internet; Billings; Changes; Telecommunications industry

**Classification Codes:** 9190 (CN=United States); 3200 (CN=Credit management); 5250 (CN=Telecommunications systems); 8330 (CN=Broadcasting & telecommunications)

?

Logon

\*\*\* It is now 12/20/06 5:23:04 PM \*\*\*

09/655520 Dialog Search

## Welcome to DialogLink - Version 5 Revolutionize the Way You Work!

### Alias Settings

Alias	Status	Text
bib1	On	35,583,65,2,144,233,474,475,99
ftext1	On	15,9,275,621,636,16,160
ftext2	On	610,810,476,624,634,20
sub14	On	635,570,papersmj,paperseu
sub28	On	8,14,94,6,34,434,7
sub35	On	625,268,626,267

? Help Log On Msg

\*\*\* ANNOUNCEMENTS \*\*\*

\*\*\*

NEW FILES RELEASED

\*\*\*Engineering Index Backfile (File 988)

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\*\*\*EMCare (File 45)

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RESUMED UPDATING

\*\*\*File 141, Reader's Guide Abstracts

\*\*\*

RELOADS COMPLETED

\*\*\*Files 340, 341 & 942, CLAIMS/U.S. Patents - 2006 reload now online

\*\*\*Files 173 & 973, Adis Clinical Trials Insight

\*\*\*File 11, PsycInfo

\*\*\*File 531, American Business Directory

\*\*\*

DATABASES REMOVED

\*\*\*File 196, FINDEX

\*\*\*File 468, Public Opinion Online (POLL)

Chemical Structure Searching now available in Prous Science Drug Data Report (F452), Prous Science Drugs of the Future (F453), IMS R&D Focus (F445/955), Pharmaprojects (F128/928), Beilstein Facts (F390), Derwent Chemistry Resource (F355) and Index Chemicus (File 302).

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? Help Off Line

\* \* \*

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Connected to Dialog via SMS00305

? b 35,583,65,2,144,233,474,475,99, 15,9,275,621,636,16,160, 610,810,476,624,634,20,  
635,570,papersmj,paperseu, 8,14,94,6,34,434,7, 625,268,626,267

>>>W: 233 does not exist

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[File 475] **Wall Street Journal Abs** 1973-2006/Dec 20  
(c) 2006 The New York Times. All rights reserved.

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[File 634] **San Jose Mercury** Jun 1985-2006/Dec 17  
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[File 640] **San Francisco Chronicle** 1988-2006/Dec 20  
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[File 703] **USA Today** 1989-2006/Dec 19  
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[File 704] **(Portland)The Oregonian** 1989-2006/Dec 19  
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[File 713] **Atlanta J/Const.** 1989-2006/Dec 17  
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(c) 2006 Baltimore Sun. All rights reserved.

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(c) 2006 The Plain Dealer. All rights reserved.

[File 735] **St. Petersburg Times** 1989- 2006/Dec 19  
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[File 477] **Irish Times** 1999-2006/Dec 19  
(c) 2006 Irish Times. All rights reserved.

[File 710] **Times/Sun.Times(London)** Jun 1988-2006/Dec 20  
(c) 2006 Times Newspapers. All rights reserved.

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? s transactional(1w) data(1w) packet (s) packet adj controller

S1 0 S TRANSACTIONAL(1W) DATA(1W) PACKET (S) PACKET ADJ CONTROLLER

? s transactional(2n) data(2n) packet (s) packet(1w) controller

Processing.

Processing

S2 0 S TRANSACTIONAL(2N) DATA(2N) PACKET (S) PACKET(1W) CONTROLLER

?

? s transactional(1w) data(1w) (packet or capsule or conatiner) (s) control???.?

S3 0 S TRANSACTIONAL(1W) DATA(1W) (PACKET OR CAPSULE OR CONATINER) (S)  
CONTROL???.?

? s S (TRANSACTION???.? or business) (2n) DATA(2n) (PACKET OR CAPSULE OR CONTAINER)

S4 0 S S (TRANSACTION???.? OR BUSINESS) (2N) DATA(2N) (PACKET OR CAPSULE OR  
CONTAINER)

? s (TRANSACTION???.? OR BUSINESS) (s) payment(s) (data or information) 10N streams

>>>W: Invalid syntax

>>>E: There is no result

?

? s (TRANSACTION? OR BUSINESS) (s) payment(s) ((data or information) (10N) streams)

Processing

Processing

Processing

Processing

Processing

Processing

Processing

S5 283 S (TRANSACTION? OR BUSINESS) (S) PAYMENT(S) ((DATA OR  
INFORMATION) (10N) STREAMS)

```
?  
? s s5 and ((transacting(2n)directly or self(2n)(controlled or controlling))  
>>>W: Unmatched parentheses  
>>>E: There is no result  
  
? s s5 and ((transacting(2n)directly) or (self(2n)(controlled or controlling)))  
Processing
```

```
S6          0  S S5 AND ((TRANSACTING(2N)DIRECTLY) OR (SELF(2N)(CONTROLLED OR  
CONTROLLING)))
```

```
?  
? s s5 not (PY=>20000905)  
Processing  
Processing  
Processing  
Processing
```

```
S7          33  S S5 NOT (PY=>20000905)
```

```
? rd  
>>>W: Duplicate detection is not supported for File 625.  
Duplicate detection is not supported for File 626.  
Records from unsupported files will be retained in the RD set.
```

```
S8          23  RD  (UNIQUE ITEMS)
```

```
? t s8/t/3,k/all  
>>>E: Syntax error near "s8/t/3,k/all"
```

```
? t s8/3,k/1-33
```

8/3,K/1 (Item 1 from file: 15)  
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02314501 34570483

### **Overlooked exposure**

Lipp, Anthony J; Norman, Jay D  
Banking Strategies v74n5 pp: 41-48  
Sep/Oct 1998  
ISSN: 1091-6385 Journal Code: BAD

#### **Abstract:**

...new rivals if they are to stake their claim in electronic commerce. Product development efforts must be centered on online propositions that enhance billers' electronic business models. Commercial banks must also find innovative ways to capitalize on new streams of customer information available in the electronic environment. And wholesale and retail bankers must collaborate fully if they are to capitalize on the Internet-driven revolution in bill presentment and payment. One serious trap to be avoided is assuming that there is no urgent need to plan for tomorrow, simply because the pace of change appears...

8/3,K/2 (Item 2 from file: 15)

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01619378 02-70367

### **Billers will call the shots in bill presentment**

Orr, Bill  
ABA Banking Journal v90n4 pp: 70  
Apr 1998  
ISSN: 0194-5947

**Journal Code: BNK**

**Word Count: 791**

**Text:**

...be the long-awaited killer app that will bring home banking to the masses. The industry consensus is that full-cycle electronic bill presentment and payment systems (EBPP) are definitely coming. But now is still too early to see clearly what shape it will take. As James S. Diggs, vice-president for business development at BlueGill Technologies, puts it: "The major players are making up a lot of things as they go along." Diggs is in a good position to know. His Ann Arbor, Mich.-based software company works with all the major players, providing crucial back office solutions that translate billers' legacy data-streams into interactive applications on the World Wide Web.

**Billers will pay**

So far, Diggs says, all players seem to agree that billers will pay the...

8/3,K/3 (Item 3 from file: 15)

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01240743 98-90138

### **Seven cash management solutions for health care companies**

Gregory, Tom

Commercial Lending Review v11n3 pp: 20-27

Summer 1996

ISSN: 0886-8204 Journal Code: CLV

Word Count: 3205

Text:

...number of sources. First, the Health Care Finance Administration (HCFA) now requires health care providers to submit all claims electronically as well as to accept payment and remittance advice via EDI. Second, the Work Group on EDI issued the WEDI Report, which claims that health care providers can save over \$40 billion annually if they convert just six routine transactions from paper to electronic. Third, banks, which have already seen the benefits of EDI in other industries, are strongly encouraging their health care customers to convert to electronic transactions.

Accordingly, many health care financial managers are convinced of the benefits of EDI and are embracing the technology. At the same time, however, others still...

8/3,K/4 (Item 4 from file: 15)

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01205128 98-54523

### **If you are serious about financial EDI, restructure your cash application process**

Kaiser, L H

Business Credit v98n4 pp: 23-25

Apr 1996

ISSN: 0897-0181 Journal Code: CFM

Word Count: 1741

Text:

...the additional flexibility of separately receiving the remittance detail that lists the invoices, credits, and other pertinent information.

Affordable software can be purchased to match payment and remittance data as well as to merge and correct these data streams before updating the accounts receivable system. Not only should this software provide internal connectivity (EDI data stream to accounts receivable system), but to be effective...

...will be saved. And time is money! It is feasible for companies to develop their own software but only economically justifiable if they have large transaction volumes. The challenge is for a company with transaction totals in the range of 50 to 4,000 per day to enjoy the advantages of restructured cash receipt processing without having to pay the...

8/3,K/5 (Item 5 from file: 15)

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01202280 98-51675

### **Building an Internet promotion program**

Liebman, Milt

Medical Marketing & Media v31n4 pp: 90-101

Apr 1996

ISSN: 0025-7354 Journal Code: MMM

Word Count: 4606

Text:

...of therapy, and outcomes. The combination and selected application of these data add greatly to their value. Zoller foresees three revenue streams: user-based with payment of subscription fee for high value content; advertising fees justified by audience; and transaction -delivered income from the viewer, for information benefits such as CME courses leading to credit, for example. To help achieve these goals, Medical Economics will...

8/3,K/6 (Item 6 from file: 15)

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00566598 91-40952

### **Software**

Goldman, Mark; Roberson, Ray

Mortgage Banking v51n11 pp: 69-70

Aug 1991

ISSN: 0730-0212 Journal Code: MOB

Word Count: 1979

**Abstract:**

Maximum productivity in software support for the loan production aspect of the mortgage banking business is critical because personnel costs are a significant component of total cost. Business functions such software should support include prequalification, processing, underwriting, closing, and any related management reporting. The loan origination-production software should also have several features...

...all of these functions. Lenders should be able to flexibly define loan programs, and the software should handle a variety of loan types, terms, and payment streams. All functions should be integrated, with data entered only once. Companies offering loan origination-production packages having significant installed bases include Dynatek Inc., Eastern Software Corp., Financial Industry Computer System, FiTech Systems...

8/3,K/7 (Item 1 from file: 9)

Business & Industry(R)

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01351788 Supplier Number: 24015769

Web Service For Indian News, Business Information

( Matrix Information Services Ltd is offering Matrix Informer, a Web-based database service for Indian news and information )

Newsbytes News Network , p N/A

September 02, 1997

Document Type: Journal ( United States )

Language: English Record Type: Fulltext

Word Count: 916

**TEXT:**

MUMBAI, INDIA, 1997 SEP 2 (NB) -- By Madanmohan Rao. A Web-based database service for Indian news and business information, called Matrix Informer (<http://www.matrix.co.in> ), is being offered by Matrix Information Services Ltd., a wholly owned subsidiary of Indian financial services...

...news articles from 7 Indian newspapers and one newswire, and trade statistics for the past 5 years on all countries with which India trades. "To business and research professionals, we seek to become the primary source for quality information about India. To Indian content producers, we offer additional revenue streams," according to Keya Sarkar, chief executive at Matrix Information Services. The list of searchable content includes news from major English-language newspapers (Business Line, Business Standard, Hindu,

Hindustan Times, Telegraph, Times of India, Economic Times), reports from the Center for Monitoring the Indian Economy (CMIE) and the Credit Rating Information...

...is in English. The timing is now perfect - the Internet is just taking off in India, and credit cards are widely accepted as means of payment. The business and research community in India is realizing the importance of ready access to comprehensive news and information," according to Sarkar. The newspaper content includes news...

...only service, a full access service, monthly subscription, annual subscription, and even pre-paid password accounts (for users in India) starting from Rs. 250. The payment method for the service is by credit card, but not online - users have to supply their credit card numbers offline. Payments by cash, check or demand draft are not yet accepted. "To increase the accessibility of the service, we are also thinking of setting up service counters in business districts and libraries, where an attendant will access our site in response to queries from users. We also plan to set up pre-paid password services at libraries," says Sarkar. "We don't plan to get into the content generation business ourselves - otherwise, we will be competing directly with our content providers. Our focus is only on content aggregation and distribution," says Sarkar. "We also don...

...from flashy ads so that users on a slow dial-up line can also expect reasonable online performance," Sarkar explains. Future plans include addition of business magazine content, acquiring news archives of the past years, providing access to photograph archives, setting up a high-speed mirror site abroad, and offering library...

...in. "We are prepared for the long haul. We expect to break even only after a few years," Sarkar says. "We are certainly taking a business risk - but there is a bigger risk in waiting too long and missing the bus altogether." (19970902/Reported by Newsbytes News Network <http://www.newsbytes...>

8/3,K/8 (Item 2 from file: 9)

Business & Industry(R)

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00603360 Supplier Number: 23164728

**NY Clearing House Unveils Small-Bank EDI Software**

(New York Clearing House Association's new ACHRedi software translates remittance information that accompanies business-to-business EDI payments )

American Banker , v CLX , n 62 , p 15

March 31, 1995

Document Type: Journal ISSN: 0002-7561 (United States )

Language: English Record Type: Abstract

## **ABSTRACT:**

The New York Clearing House Association has developed ACHRedi, personal computer software designed to help banks process the financial information that accompanies business-to-business electronic data interchange (EDI) payments. In financial EDI, the receiving bank gets remittance information (such as data about the purpose of payment, adjustments and discounts) along with the payment. ACHRedi allows banks to translate remittance information written in long streams of digits into human-readable reports and computer-readable files. Banks can then send the translated information to their corporate customers. The New York Clearing...

8/3,K/9 (Item 1 from file: 275)

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02432430 Supplier Number: 65161499 (Use Format 7 Or 9 For FULL TEXT )

Tweak Registry for Broadband Speed.(Everything you need to know about getting and using broadband Internet access.)(Product Support)(Tutorial)

Finnie, Scot

WinMag.com , NA

July 25 , 2000

Document Type: Tutorial

Language: English Record Type: Fulltext; Abstract

Word Count: 4407 Line Count: 00337

### **Text:**

...Windows Insider) from July 12 to July 22.I should have seen this coming, but I didn't. My Flashcom mailbox was overflowing only three

business days after I left, and the company rejected all my mail from that point on. Flashcom didn't even notify me of the problem until...

...others. It's not really an ISP. Instead, it pays you to take monthly surveys (apparently the same or similar to the WorldShare surveys). The payment it makes is a reimbursement to you for your ISP's monthly charge, up ...what "streaming media" companies do is resort to trickery to make small pictures and tinny sound come together in an approximation of TV-like live "streams." Bottom line, what they do is hope to get the data transmission small enough that you'll have fewer synchronization interruptions due to Internet hiccups.&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;But having said all that, moving...longtime MediaOne customer myself (from January of 1997

to June of 1999). I can tell you this, if you use your cable modem mostly during business hours, I think a lot of this will be a moot point. The peak times are usually from 8PM to 11PM on weekdays, and weekend...

8/3,K/10 (Item 1 from file: 621)

Gale Group New Prod.Annou.(R)

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02714835 Supplier Number: 66657863 (USE FORMAT 7 FOR FULLTEXT)

New LML Processing Facility Goes Live.

PR Newswire , p NA

Nov 7 , 2000

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

Word Count: 412

...With financing provided by IBM Credit Corporation, the new processing center is equipped with an IBM OS/390 mainframe system capable of handling large volume transaction data streams in real-time.

Phoenix EPS' flagship product, REPS (Retail Electronic Payment System) is a secure and centralized gateway for electronic payment authorization and settlement traffic between store registers, authorization networks and financial institutions. The processing capabilities of REPS, in concert with the volume capacity of the IBM mainframe architecture, provide a completely scalable, flexible transaction processing solution.

"The opening of the Phoenix EPS processing center should allow us to leverage our intellectual property and vertically integrated service offerings as planned...

8/3,K/11 (Item 2 from file: 621)

Gale Group New Prod.Annou.(R)

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02643413 Supplier Number: 65242832 (USE FORMAT 7 FOR FULLTEXT)

VIRGIN MOBILE SELECTS INFOSPACE TO PROVIDE PLATFORM FOR NEXT GENERATION WIRELESS INTERNET SERVICES.

PR Newswire , p 8621

Sept 14 , 2000

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

Word Count: 977

...and broadband wireless (2.5G and 3G) services such as interactive

gaming, television and other entertainment services. In addition, the announcement brings full back end payment processing to InfoSpace's existing commerce services, allowing InfoSpace to offer everything a merchant needs to conduct the entire lifecycle of a transaction, one of the key drivers of mobile commerce adoption.

**About Virgin Mobile**

Virgin Mobile is a 50:50 joint venture company between Virgin and Deutsche...

8/3,K/12 (Item 3 from file: 621)

Gale Group New Prod.Annou.(R)

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**02449161 Supplier Number: 61396190 (USE FORMAT 7 FOR FULLTEXT)**

**Optio Software Inc. Delivers B2B Payment Solution with Launch of Optio e.ComPayments.**

Business Wire , p 0267

April 10 , 2000

**Language:** English **Record Type:** Fulltext

**Document Type:** Newswire ; Trade

**Word Count:** 966

...products that provide business-to-business integration and presentation of highly-tailored information supporting core business processes.

Optio e.ComPayments supports both print and electronic payment requirements to facilitate an organization's transition from paper-intensive commerce to e-business. Optio e.ComPayments integrates with existing accounts payable, ERP (Enterprise Resource Planning) and financial applications; captures live data streams and produces bank-compliant, secure electronic payments or paper checks. Through Optio e.ComPayments, electronic advice notifications can be distributed to a variety of digital...

8/3,K/13 (Item 1 from file: 16)

Gale Group PROMT(R)

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**05251767 Supplier Number: 48004280 (USE FORMAT 7 FOR FULLTEXT)**

**Banks Told to Mine Data in Battle for Market**

BLOOM, JENNIFER KINGSON

American Banker , p 20

Sept 25 , 1997

**Language:** English **Record Type:** Fulltext

**Document Type:** Magazine/Journal ; Trade

**Word Count:** 475

...no time for banks to be complacent."

Susan L. Roth, vice president and senior analyst at Donaldson, Lufkin & Jenrette, spoke of a "shift from pure transaction processing to information processing," turning payment-related data streams into marketing tools.

She said the movement is typified by First Data Corp.'s acquisition of Donnelley Marketing Inc. and development of the Usave target...

8/3,K/14 (Item 1 from file: 20)

Dialog Global Reporter

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30433454 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Q4 2003 NDCHealth Earnings Conference Call - Part 1

FAIR DISCLOSURE WIRE

July 03, 2000

Journal Code: WFDW Language: English Record Type: FULLTEXT

Word Count: 4558

...reducing interest expense and lowering our debt to capital ratio towards a target of 35 percent. Low double-digit to midteens revenue growth in both business segments by the fourth quarter of 2005. Operating margin expansion of more than 100 basis points by the fourth quarter of 2005 compared to the...

...in fiscal 2004. The key drivers to this revenue growth in this segment are: further penetration of our provider customer base with additional value added transaction services to grow revenue per claim, continued growth in claims, rollout of the new system technology platforms in pharmacy and hospital with the recurring revenue...

...One of our strategies is to increase the percentage of recurring revenue in the network segment by shifting more of our pricing models to be transaction based. We recognize this creates pressure on revenue growth in the short term as we transition to the new model, but it builds reliable recurring revenue stream. We expect margins to continue to expand in the network segment primarily due to increasing transaction scale in a relatively high fixed cost of business and positive contributions from new products and services. In the information management segment of our business, while there have been some recent positive announcements among the pharmaceutical manufacturers, we continue to take a cautious view about the timing of a rebound...

...quarter of fiscal 2005. Margins could also expand longer term through the following. A reacceleration of the revenue growth in this relatively high fixed cost business, tight cost controls and achievement of

profitability in international operations. For the total company NDCHealth, we expect revenue to increase in the low double-digit...to our plan, including the Medicare drug benefit which is being mandated into law and the consequential growth -- the consequent growth of claims and valuated transaction volumes, accelerated those options electronic prescribing, greater interest among Pharma customers for our new solutions which leverage our claims processing network, acceleration of Pharma demand...of solutions to our customers rather than individual products as we have emphasized in the past. In conjunction with selling solutions, the customer may remit payment in advance of receiving services. This causes an increase in cash and in deferred revenue consistent with our recurring revenue strategy. Revenue for these contracts...of our eight quarter plan are to grow revenue, expand margins and generate cash flow. Walter has addressed revenue growth. Regarding margin expansion, generally our business model is a high fixed cost, low variable cost model which requires scale and achievement of critical mass in our markets. The model is leveraged by the incremental transactions we process on the relatively fixed cost of the network and by incremental services we provide to Pharma customers which leverage purchase data. Our margins...

...management margin that will be impacted by European expansion and continuing spending curbs in our Pharma customers. As we continue to leverage our fixed cost business, and we execute against our eight quarter plan, by the fourth-quarter of fiscal 2005 we expect to see low double-digit to midteens revenue growth in both business segments, operating margin expansion of more than 100 basis points from the fourth-quarter of fiscal 2003 to the fourth-quarter of fiscal 2005, and...

...will be successful in executing our eight quarter plan. The key points to our strategy are: one, to increase revenue per claim through value added transactions; two, to grow claims volume as the market grows and through gains in market share; and three, to position our information management business to create new streams of revenue through our extensive claims processing resources, and to be well positioned for a rebound in the Pharma manufacturing industry. We will now move...

8/3,K/15 (Item 1 from file: 713)

Atlanta J/Const.

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07726070

## PUBLIC ANSWER LINE 822-PALS

Atlanta Constitution ( AC ) - Saturday August 13, 1994

Section: EXTRA Page: J/9

Word Count: 2,101

Caption:

...Elderly & Disabled..	698 Mental Health, Mental Retardation, Substance Abuse Services.....	784 Therapeutic Recreation for Disabled Youth.....	419 Economic Development Block Grants for Public Agencies.....	436																	
<b>Business License.....</b>	<b>747 Business License Fees.....</b>	<b>310 Chamber of Commerce.....</b>	<b>534</b>																		
Community Development Block Grant....	551 Education Attendance Zones.....	321 Community Schools Programs.....	568 Employment Applications.....	408 Gwinnett Technical... A-Road.....	235 Adopt-A-Stream.....	263 Detention Ponds.....	441 Environmental Workshops..	253 Litter Reporting.....	404												
Mosquitoes.....	375 Recycling.....	233 Special Events.....	383 Springs.....	343																	
<b>Streams/Creeks.....</b>	<b>477 Wetlands.....</b>	<b>620 Extension Service General Information .....</b>	<b>735</b>																		
Agricultural Programs.....	785 Family Resource Management.....	474 Natural Resources Management.....	689 Nutrition - Improving Diet & Health..	350 Youth at Risk.....	559 Family/Youth Services Battered...																
...752 First-Time Homebuyer Program.....	384 Housing for Elderly & Disabled.....	279 Rock Program.....	455 Septic Tanks.....	751 Library Services Book Sales.....	207																
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Drivers License Info.....	423 Firearm License - First-time Permits..	510 Firearm License - Renewals.....	476 Marriage License - Age 18 & Up.....	223 Marriage License..	Illegal dumping into Storm Drains..	228 Irrigation meters.....	598 Lead in Water.....	416 Leaks/High Bill.....	325 Loss of Water.....	628 Meter Installations.....	642 Non-Payment Disconnect.....	578 Office Hours.....	676 Past Due Accounts.....	623 Payment Drop Boxes.....	702 Pipeline Construction Questions & Complaints.....	370 Returned Checks.....	277 Septic Tanks.....	751 Service Charges.....	515 Sewage/Odor Problems.....	358 Sewer Stub Locations.....	272...

8/3,K/16 (Item 1 from file: 625)

American Banker Publications

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0205591

### Banks Told to Mine Data in Battle for Market

American Banker - September 25, 1997 ; Pg. 20 ; Vol. 162 , No. 185

Document Type: Journal Language: English Record Type: Fulltext

Word Count: 481

#### Byline:

By JENNIFER KINGSON BLOOM

#### Text:

...no time for banks to  
be complacent."

Susan L. Roth, vice president and senior analyst at Donaldson, Lufkin &

Jenrette, spoke of a "shift from pure transaction processing to information processing," turning payment-related data streams into marketing tools.

She said the movement is typified by First Data Corp.'s acquisition of Donnelley Marketing Inc. and development of the Usave target...

8/3,K/17 (Item 1 from file: 267)  
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04574235

## CARD INDUSTRY LOOKS TO TECHNOLOGY TO STAMP OUT FRAUD

Card News  
December 27, 2000 Vol: 15 Issue: 26 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 1381 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

### Text:

#### Internet Commerce Drives Need for 'Card-Not-Present' Solutions

Card-not-present transactions may have been with us for decades in the form of mail order-phone order [MOTO] sales, but the volume and velocity of Internet commerce...

...without transmitting their actual card account number over the Internet and will be available free within the next month to American Express consumer and small business cardmembers in the United States.

Unlike a typical credit card transaction over the Internet that transfers the credit card number and expiration date to the merchant's server, private Payments randomly creates a unique number with...  
...reported.

A similar approach to authenticating the credit card user was launched early in the year by New York-based Cyota, an international on-line payment security company. Isracard, a credit card issuer based in Israel with a portfolio of 1.5 million cards, recently announced it would use Cyota's SecureClick system to make safe transactions on-line.

Cyota's SecureClick also addresses the authentication dilemma by allowing consumers to make purchases on-line without revealing their real credit card number...

...A survey of more than 160 companies released by Stamford, Conn.-based Gartner Group in August found that 12 times more fraud exists on Internet transactions and that e-tailers are paying credit card discount rates that are 66 percent higher than traditional retailer fees. Moreover, Web merchants bear the liability...

...card companies generally absorb the fraud for traditional retailers, as long as the retailer follows procedures and saves a physical signature on a credit card transaction receipt.

The e-tailers surveyed by Gartner reported that their average credit card discount rate was 2.5 percent plus about 30 cents a transaction. The same average for traditional retailers is about 1.5 percent plus 30 cents per transaction. Therefore, a merchant may pay credit card processors \$2.80 for selling a shirt on-line, but pay only \$1.80 for the same transaction in the physical store. Also, the Gartner survey found, e-tailers spend about four times more to resolve and process chargebacks than their brick-and...

...s been a lot of conjecture to date, you've seen some wild speculation that it's as high as 10-25 percent of all transactions on the one hand, but then you hear the credit card companies say it's as high as the physical world," said Avivah Litan, research director, Gartner Financial Services. "What we found is it's a little under 1.2 percent of transactions.

It's much higher than what the credit card companies have been saying -- it's about 12 times higher at least -- but it's much...

...although Litan points out that lower real-world fraud rates are often reported.

The Gartner survey did not address credit card fraud in physical world transactions, Litan said.

#### Using Predictive Scoring to Reduce Fraud

Because on-line purchases are classified as card-not-present transactions, merchants, rather than card issuers, are responsible for the chargebacks resulting from these transactions. If the bottom line is that e-

tailers are getting hit from all sides, several key vendors in this space are looking to provide them...of when deciding to extend credit to consumers in the first place -- are being leveraged to help e-tailers determine the fraud risk of individual transactions.

At the core of many recent announcements is technology from San Diego-based HNC Software Inc. [HNCS], a provider of predictive software solutions for service...

...including financial, insurance, telecommunications and e-commerce. HNC's suite of predictive software solutions aims to provide real-time insight into customer relationships based on transaction-level data, helping companies manage their relationships with individual customers.

By accurately predicting customer behaviors, these companies can create initiatives to mitigate risk and attrition; improve customer service; develop marketing programs to enhance profitability, and detect fraudulent customer transactions, HNC officials say.. Within the past few weeks, several firms, including First Data Corp., CyberCash and VeriSign have unveiled services for e-tailers based on the HNC offerings.

Such a system is most helpful, however, when multiple data streams can be incorporated. In late June, eHNC, a application service provider (ASP) subsidiary of HNC Software, announced it would team with Equifax Inc. [EFX] to...

...to supply the technology that enabled the predictive scoring. FraudPatrol is based on HNC's eFalcon system and is tightly integrated with CyberCash's Internet payment service, a secure application programming interface (API), and advanced administrative tools. FraudPatrol is available to both current CyberCash merchants and merchants who are not currently using CyberCash's Internet payment service.

In a move that could have a profound effect on fraud reduction in the off-line debit and credit card arena, Woodcliff Hills, N...

...a neural network system developed by MasterCard and HNC Software. RiskFinder uses HNC's patented neural network modeling technology while leveraging the MasterCard Banknet global transaction processing network to predict and, ultimately,

help to reduce  
fraud losses associated with credit and off-line debit cards.

8/3,K/18 (Item 2 from file: 267)  
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04569752

## CARD FRAUD SIGNIFICANTLY HIGHER IN INTERNET COMMERCE TRANSACTIONS

Card News

August 9, 2000 Vol: 15 Issue: 16 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 2390 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

Text:

...One in a Two-Part Series

Although credit card fraud historically has been higher in so-called "card-not-present" than in "face-to-face" transactions, the incidence of fraud with e-commerce transactions over the Internet is substantially greater than in the real world, recent research has found.

As a result of this greater vulnerability, service providers are...

...A new survey of more than 160 companies conducted by Stamford, Conn.-based Gartner Group [IT] found that 12 times more fraud exists on Internet transactions and that e-tailers are paying credit card discount rates that are 66 percent higher than traditional retailer fees.

Moreover, Web merchants bear the liability...

...card companies generally absorb the fraud for traditional retailers, as long as the retailer follows procedures and saves a physical signature on a credit card transaction receipt.

The e-tailers surveyed by Gartner reported that their average credit card discount rate was 2.5 percent plus about 30 cents a transaction.

The same average for traditional retailers is about 1.5 percent plus 30 cents per transaction.

Therefore, a merchant may pay credit card processors \$2.80 for selling a shirt online, but pay only \$1.80 for the same transaction in the

physical store.

Also, the Gartner survey found, e-tailers spend about four times more to resolve and process chargebacks than their brick-and...

...been a lot of conjecture to date, you've seen some wild speculation that it's as high as 10 to 25 percent of all transactions on the one hand, but then you hear the credit card companies say it's as high as the physical world," says Avivah Litan, research director, Gartner Financial Services.

"What we found is it's a little under 1.2 percent of transactions. It's much higher than what the credit card companies have been saying -- it's about 12 times higher at least -- but it's much..."

...although Litan points out that lower real-world fraud rates are often reported. The Gartner survey did not address credit card fraud in physical world transactions, Litan said.

"We did ask them about chargebacks in total and there were about twice as many chargebacks including disputes and fraud, but when you...the merchants need is fraud protection and there are solutions on the market."

### Solutions Emerging Slowly

While the development of new forms of secure online payment like PIN-based debit transactions, smart cards and other forms of authentication are in the works, most of these are not yet ready for prime time in the U.S... ...of mobile commerce over a wide variety of devices may offer further challenges to rooting out certain types of credit card fraud in e-commerce transactions.

"The problem is the authentication today using digital certificates on a mobile device or a smart card attached to a mobile device, that's years..."

...high fees -- this just adds to the whole fee structure. It's a little unfair to the e-tailer -- it's a cost of doing business. It's almost like they have to do it because if their fraud stays as it is now, they're going to lose their account. ... Especially the small ones."

As for other solutions that require consumers to migrate to a new method of conducting those transactions, the incentives may not yet exist for consumers to embrace new solutions, Litan believes. "The problem is going to be the consumers," she says. "The..."

...you're protected. These other schemes, the only way they're going to take off is if the merchants incent consumers...to use a separate payment system that doesn't use credit cards."

#### Using Predictive Scoring To Reduce Fraud

Because online purchases are classified as "card-not-present" (CNP) transactions, merchants, rather than card issuers, are responsible for the chargebacks resulting from these transactions. If the bottom line is that e-tailers are getting hit from all sides, several key vendors in this space are looking to provide them...

...of when deciding to extend credit to consumers in the first place -- are being leveraged to help e-tailers determine the fraud risk of individual transactions.

At the core of many recent announcements is technology from San Diego-based HNC Software Inc. [HNCS], a provider of predictive software solutions for service...  
...including financial, insurance, telecommunications and e-commerce. HNC's suite of predictive software solutions aims to provide real-time insight into customer relationships based on transaction-level data, helping companies manage their relationships with individual customers.

By accurately predicting customer behavior, these companies can create initiatives to mitigate risk and attrition; improve customer service; develop marketing programs to enhance profitability, and detect fraudulent customer transactions, HNC officials say. Within the past few weeks, several firms, including First Data Corp., CyberCash and VeriSign have unveiled services for e-tailers based on the HNC's technology.

"Internet merchants are very concerned about fraud perpetrated online, since they are responsible for losses incurred through card-not-present transactions," says Walter Lee, vice president of Internet Risk Products with

HNC. "It is important to establish security measures at all the potential points of failure...  
...scores, and rules to distinguish between legitimate shoppers and fraudulent purchasers. It also provides strategy management and customer service tools to help merchants save legitimate transactions that appear risky, as well as set policies for accepting and rejecting transactions. eFalcon technology is based on HNC's Falcon bank card fraud detection technology, developed over a 10-year period and currently used to protect more than 300 million payment card accounts worldwide.

Such a system is most helpful, however, when multiple data streams can be incorporated. In late June, eHNC, an application service provider (ASP) subsidiary of HNC Software, announced it would team with Equifax Inc. [EFX] to...to supply the technology that enabled the predictive scoring. FraudPatrol is based on HNC's eFalcon system and is tightly integrated with CyberCash's Internet payment service, a secure application programming interface (API), and advanced administrative tools. FraudPatrol is available to both current CyberCash merchants and merchants who are not currently using CyberCash's Internet payment service.

The FraudPatrol service works by analyzing more than 200 transaction factors to produce a real-time fraud score for each credit card transaction. The system becomes smarter with experience - the more transactions it scores, the more information is stored for scoring future transactions, and the more fraud patterns FraudPatrol will detect. The system was built from a database enhanced by billions of transactions, including 60 million Internet transactions.

"Because it is based on the technology from HNC -- it has the neural network and profiling technology as well as access to a very large..."

...says Ali Ersheid, director, product marketing, e-commerce services group, CyberCash Inc. "The more participants in this system, the better the service gets, the more transactions that are built into the service."

The CyberCash offering was in beta test for two months before going live with a couple of dozen merchants...said, chargebacks from a very active holiday season were starting to come back and bite

Internet

merchants during the April time frame.

While Internet commerce transactions are in some ways similar to other card-not-present transactions such as mail order/telephone order, there are key differences that make it much easier to perpetrate fraud over the Internet than over the phone...

8/3,K/19 (Item 3 from file: 267)

Finance & Banking Newsletters

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04562096

## INTUIT DEAL WITH TRANSPONT DRIVES EBPP MARKET

Item Processing Report

February 10, 2000 Vol: 11 Issue: 3 Document Type: NEWSLETTER

Publisher: PHILLIPS BUSINESS INFORMATION

Language: ENGLISH Word Count: 1465 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

Text:

### Market Growth Threatens Bank Item Processing Operations

Last week's agreement between Intuit Inc. [INTU] and TransPoint to expand access to electronic bill presentment and payment customers and billers bodes well for accelerated growth of EBPP services. It also presents a tremendous competitive threat to financial institutions and their item processing...

...because we will be able to bring more bills to consumers than any other provider," says Celia Saino, senior product manager, Internet Bill Presentment and Payment, Intuit. "We currently work with CheckFree, we've been live with them in Quicken for a couple of years. We went live on quicken.com As the economy electronifies, the traditional processors of financial transactions, largely banks, become disadvantaged," says Dick Poje, a partner at XXXX-based consultancy Treasury Strategies Inc. "The payments

business is slated to generate about \$130 billion in revenue this year - arguably two-thirds of that is bank revenue, [which is] about a third, maybe...

...Even if they replace it with Web-based technology, banks are still stuck with acres and acres of hardware and software and technology for processing transactions. The implication is that the profitability of an entire industry can get zapped."

As more bills are presented electronically, remittance processing will be managed by the Internet bill payment processor and not by the financial institutions, unless the financial institutions and remittance processors have their own competitive products and services.

"They're far behind..."

...of the large banks with assets above \$4 billion, although 21 percent of the total is derived from deals with Integrion and EDS.

Bank-owned payment systems accounted for only 3 percent of the total number of banks, although many of those institutions are likely to post heavy transaction volume. Banks with assets of \$1 billion to \$4 billion were equally split between CheckFree and Brown Deer, Wisc.-based processor M&I Data, and most still were in the planning stages of their EBPP programs.

These banks were considering their home-banking vendors as the primary providers of bill payment and counting on them to provide the gateways to the most efficient payment processors.

While this relationship strategy provides banks with an efficient way of quickly getting into EBPP, payment processors also can win because it enables them to better serve their billers.

"The main reason [processors] want a partnership is that when billers get...more frequently as financial institutions seek ways to differentiate their EBPP offerings from those of their competitors.

"One of the main problems with consumer bill payment to date has been the lack of an audit trail that tells service providers and consumers what happened to their payment," Litan explains. "Half of the payments on the

back end are paper payments and they're very difficult to track. Customer service calls can cost...

...proposition. One of the ways to save money and improve service is to have an audit and tracking capability of what happens to a customer payment."

#### Cracking the EBPP Wall

While online bill payment has been available for more than a decade, being able to receive a bill online is relatively new practice. The most significant drawback is the lack of significant biller participation.

Billers face the challenge of having to justify the business case for an EBPP scenario that delivers only a fraction of their customers and may require them to receive two separate streams of remittance data - one from the EBPP service and the other from the financial institution or lockbox provider.

"It's been a challenge to get billers signed up..."

8/3/K/20 (Item 4 from file: 267)  
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04560855

#### THIRD-PARTY PROCESSORS MAY CONTROL THE FUTURE OF RETAIL LOCKBOX

##### ITEM PROCESSING REPORT

January 13, 2000 E Vol: 11 Issue: 1 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 510 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

##### Text:

...there, so we expect to see huge growth [for third-parties] over the next several years.

"And most banks that have looked at their retail business are finding that in some cases it might be nice to have, but rarely is it a core competency, so I don't think you..."

...on a key environment," Pinou says. "They may be at a point where they have to either embrace the new technology

[or outsource]."

### Changing The Business

As third-party remittance processors gain higher volumes, they will be able to invest more heavily in research and development efforts to meet the changing...

...and viewed as part of the overall process," Carfang says.

Corporate clients of the future want more than check processing, Carfang adds, they want various **data streams** and **payment methods**

integrated. "I have one client that has 26 billing systems and 105 different ways of receiving payments from various clients," Carfang says.

Billers are...

...technology implementation, where [providers] can sense the change of addresses and process those mechanically," Pinou says.

Washington-based Remitco is anticipating a rush of new **business** and beginning to eye new services, says Joe Proto, Remitco president and CEO. "In the future you will need to have greater online capabilities, such..."

...Proto says. "And to some degree, [you need] a more comprehensive offering beyond just remittance processing, such as outbound printing services."

Historically a break-even **business**, retail remittance processing will become more profitable as consolidation brings higher volumes to third-party processors and investments can be made for new, revenue-generating...

8/3/K/21 (Item 5 from file: 267)  
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04541186

### PRODUCT NEWS

#### ITEM PROCESSING REPORT

November 5, 1998 E Vol: 9 Issue: 22 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 487 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

**Text:**

...Holzman, Unisys, 215/986-5098,  
stephen.holzman@unisys.com.)

**HP Expands Memory Capabilities.**

For designers who need to debug systems that process and transfer large streams of data, Palo Alto, Calif.-based Hewlett-Packard Co. [HWP] introduced last week a memory expansion interface module. Users can acquire up to 40 megabits of data...

...check processing system for its international check clearing operation. The new system, which will go live in January, is valued at \$5 million. Barclays' international payment and cash management services division handles more than 1 million checks each week, in a variety of currencies. "Barclays had a very complex set of business requirements, calling not only for a flexible solution but a flexible approach to solving their process problems," says Kevin Roper, vice president, Worldwide Systems, BancTec...

8/3,K/22 (Item 6 from file: 267)

Finance & Banking Newsletters

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04537866

### **Thomas Cook Boosts Web-Based FX Trading**

Robert Tie

Web Finance

August 10,1998 Document Type: NEWSLETTER

Publisher: SECURITIES DATA PUBLISHING

Language: ENGLISH Word Count: 1215 Record Type: FULLTEXT

(c) SECURITIES DATA PUBLISHING All Rts. Reserv.

**Text:**

...is about security more than anything else. "When you're dealing with a mass market, [the controlling factor] is human nature. But when it's business-to-business, there's more involved. Companies have processes in place that are time-tested," he said. And they expect their financial service providers to have equally...

...more than SSL," Walker explained, referring to Secure Sockets Layer, the security protocol most widely used on the Internet. "It's also heavily based on business practices. For example, we never pass account

information together with transaction data. And when we set up a beneficiary [i.e., payee], we don't do it on the server. Customers have to contact our dealing...

...task for recurring payments are shifted to the Virtual Trading Desk, where employees can execute them safely and efficiently.

The process of making an international payment begins with a customer issuing an order to buy foreign currency for the purpose of paying a bill in another country. The order can specify that the payment be transmitted via a draft, which enables a customer to make a payment in a payee's currency without requiring him to wait for clearance from abroad. And since meeting terms on foreign payments could sometimes require a...

...Cook offers foreign exchange services to corporations in Europe, North America, Australia and Asia, as well as to retail markets in 100 countries. "The commercial business builds on our experience in moving money and people for 150 years. We've evolved with the world's banking systems," Walker said.

In 1997...

...in selecting its technology partners for the effort, which lasted over a year. Walker recalled the priorities the team observed. "Customers wanted something that did business their way, not our way - something that would fit into their existing systems. They also wanted to make it easier to do international business simply and to be able to focus on customer service."

To that end, Cook carefully selected two nearby, Toronto-based, companies (Internet Marketing Associates and Corellan Communications) to help it build VTD and its financial transaction engine and create on-line security features. Then Cook engaged Bowne & Co. to design the fx4business.com Web site.

Now the site and VTD together...

...their home office or domestic companies that buy goods from overseas suppliers. If companies act with insufficient information on currency conditions, they may be doing business at less than favorable exchange rates.

Therefore, to add value to its service and to increase the odds of its success, Cook added to its Web site several sources of information on factors that affect exchange rates. "We have several data streams," Walker said. They include news about NAFTA, the European Monetary Union and Y2K's effect on international trade. "These sources contain premium information that we..."

...line, saving [us] time and money. In fact, the Virtual Trading Desk has helped us cut in half the time we spend on international billing transactions."

If each new client is as pleased as WorldSpace is, Walker may have been right when he said, "We have hundreds of VTD customers now..."

8/3,K/23 (Item 7 from file: 267)  
Finance & Banking Newsletters  
(c) 2006 Dialog. All rights reserved.  
00000779

## NACHA EBT RULES ARE NOT WELCOMED WITH OPEN ARMS

### EFT REPORT

May 8, 1996 Vol: 19 Issue: 10 Document Type: NEWSLETTER  
Publisher: PHILLIPS BUSINESS INFORMATION  
Language: ENGLISH Word Count: 1212 Record Type: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

### Text:

...have not endeared the group to many EBT vendors.

The new rules were designed to specify the responsibilities of the various parties involved in EBT transactions, NACHA said. However, some EBT vendors say the new rules duplicate existing EFT guidelines issued by EFT networks. Others believe NACHA is trying to gain a piece of the EBT transaction pie as ACHs look for new streams of revenue.

EBT giants Milwaukee-based Deluxe Data and Austin, Texas-based Transactive are not even members of the council. And New York-based Citibank only joined the NACHA EBT Council because most...

...left for the market to decide.

We are establishing a bureaucracy that is not needed."

"Operating rules in commercial [EFT] does not deal with EBT transactions," McEntee said. "The Honor, GulfNet [and other EFT networks] have their own rules. The EBT rules are intended to be consistent with the commercial rules..."

...and numerous state agencies.

### The NACHA "Quest"

As part of the NACHA EBT Council's decision, the Quest mark was acquired for use by EBT payment participants who agree to abide by its new operating rules. The Quest mark would be placed on the back of EBT cards and on automated determine how the transactions will be routed. It is unclear how the rules will be applied in a geographic area where one or more networks operate, said Tom McLaughlin...

...to recognize where EBT cards may be accepted," McLaughlin

said. "It is unclear to me if a Quest mark [will really help consumers.]" EBT cash transactions are identical to any point-of-sale EFT transaction

, McLaughlin added.

#### Food Stamp Specifications

However, EBT food stamp money does contain some different transaction sets and McLaughlin expects a new specification -- the ISO

85.83 -- issued by ANSI to remedy the problem.

"You need operating rules to comply with...

...been created "to obtain input and develop consensus from all EBT stakeholders in the establishment and maintenance of uniform operating rules for the processing EBT transactions." Yet, some believe NACHA may be positioning itself to grab a piece of the EBT-transaction pie. In addition, NACHA EBT ...per year.

Vendors and states can follow the NACHA rules without joining the EBT Council.

"They say [they are not looking to enter the EBT business], and I would accept that at face value at this point," McLaughlin said. "NACHA says it is only interested in rulemaking authority. [But] I assume there is a number of different fee opportunities [for them]."

McEntee strongly rejects any notion that ACHs can gain revenue or transaction volume from EBT. ACHs only are used for the inter-bank settlement of EBT transactions.

"We don't provide these [rules] to make money. We do expect our costs to be covered [though]," McEntee said. "We have a lot of..."

>>>W: Item 24 is not within valid item range for file 267

? s payment(5n)packet(25n)transact????...?

S9 0 S PAYMENT(5N)PACKET(25N)TRANSACT????...?

? s PAYMENT(5N)PACKET(s)(instruction? and authoriz????...?)

S10 0 S PAYMENT(5N)PACKET(S)(INSTRUCTION? AND AUTHORIZ????...?)

? s PAYMENT(5N)PACKET(s) transaction

S11 6 S PAYMENT(5N)PACKET(S) TRANSACTION

? s s11 not (PY=>2000)

Processing

Processing

Processing

Processing

S12 1 S S11 NOT (PY=>2000)

? ts12/3,k/1

12/3,K/1 (Item 1 from file: 636)

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03898027 Supplier Number: 50064097 (USE FORMAT 7 FOR FULLTEXT)

**BRIEFLY NOTED -- PRODUCTS**

Telecomworldwire , p N/A

June 10 , 1998

Language: English Record Type: Fulltext

Article Type: Article

Document Type: Newsletter ; Trade

Word Count: 131

...to include xDSL cable modem and high speed data networking services. The new features include Ethernet port mapping, Authentication Services and support for 802.1Q packet tagging.

VeriFone's vWALLET Internet payment solution has achieved compliance with SETCo's Secure Electronic Transaction standard, becoming the first product to do so.

Intel has introduced the Intel Celeron 300MHz processor which is compatible with a range of basic PC...

? ts12/full/1

12/9/1 (Item 1 from file: 636)

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03898027 Supplier Number: 50064097 (THIS IS THE FULLTEXT)

**BRIEFLY NOTED -- PRODUCTS**

Telecomworldwire , p N/A

June 10 , 1998

ISSN: 1363-9900

Language: English Record Type: Fulltext

Article Type: Article

Document Type: Newsletter ; Trade

Word Count: 131

Text:

TELECOMWORLDWIRE-- (C) 1994-8 M2 COMMUNICATIONS LTD

Xylan Corporation has made available features that expand service provider opportunities for OmniSwitch to include xDSL cable modem and high speed data networking services. The new features include Ethernet port mapping, Authentication Services and support for 802.1Q packet tagging.

VeriFone's vWALLET Internet payment solution has achieved compliance with SETCo's Secure Electronic Transaction standard, becoming the first product to do so.

Intel has introduced the Intel Celeron 300MHz processor which is compatible with a range of basic PC motherboard designs.

Compaq Computer Ltd has announced price cuts between 20 and 32% on desktop and notebook products, flat panel monitors and desktop memory modules.

Intel has taken US\$500 off the price of its ProShare Conferencing video System 200, which will now retail at US\$999.

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Publisher Name: M2 Communications

Company Names: \*Compaq Computer Ltd.; Intel Corp.; VeriFone Inc.; Xylan Corp.

Industry Names: BUSN (Any type of business); INTL (Business, International); TELC ( Telecommunications )

Ticker Symbols: INTC; VFIC; XYLN

? s wallet(10n)internet(25payment

S13 0 S WALLET(10N)INTERNET(25PAYMENT

? s WALLET(10N)INTERNET(25n)PAYMENT

Processing

S14 1632 S WALLET(10N)INTERNET(25N)PAYMENT

?

?

? s s14 and data and packet

S15 16 S S14 AND DATA AND PACKET

? s s15 not (py=>2000)

Processing

Processing

Processing

Processing

S16 8 S S15 NOT (PY=>2000)

? rd

>>>W: Duplicate detection is not supported for File 625.

Duplicate detection is not supported for File 626.

Records from unsupported files will be retained in the RD set.

S17 6 RD (UNIQUE ITEMS)

? t s17/3,k/1-6

17/3,K/1 (Item 1 from file: 15)

ABI/Inform(R)

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01673177 03-24167

**Digital money: Electronic cash may make sense**

Coates, Vary; Bonorris, Steven

Futurist v32n6 pp: 22-25

Aug/Sep 1998

ISSN: 0016-3317 Journal Code: FUS

Word Count: 2740

Text:

...cart and the World Wide Web as a giant mall. There is already plenty to buy-from software to automobiles, from specialty teas to statistical data-without leaving home. But how will you pay for your purchases?

Today, if you want or need to pay online, you'll probably key in...

...are still fearful of entering credit-card numbers online.

One thief stole over 100,000 creditcard numbers-issued by 1,214 different banks-by using "packet sniffers," viruslike programs that surreptitiously hunt through networks for specific chunks of electronic information like credit-card numbers.

The risk from a compromised credit card...

...so far are really like electronic credit cards. CyberCash, for purchases larger than those appropriate for CyberCoins, requires software that creates a gateway between the Internet and a credit-card company's authorization network. You send CyberCash your credit-card number, and CyberCash gives you an "electronic wallet" that records your transactions over the Internet, encrypts your payment, and sends it to the merchant. No encryption is needed for messages between customer and merchant.

First Virtual Bank (FVB) began offering digital money in

17/3,K/2 (Item 1 from file: 621)

Gale Group New Prod.Annou.(R)

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02235344 Supplier Number: 57607522 (USE FORMAT 7 FOR FULLTEXT)

Total System Services Unveils SureWallet, its Electronic Wallet Solution; Selects The Globeset BankTone Wallet For Electronic Wallet Capability.

PR Newswire , p 7201

Nov 17 , 1999

Language: English Record Type: Fulltext

Document Type: Newswire ; Trade

Word Count: 638

...million people are projected to be shopping on the Web by 2003, tallying up nearly \$1 trillion in purchases, according to studies published by International Data Corp. of Framingham, Mass.

"Consumers are rapidly adapting to the convenience of Internet shopping, and we are meeting their demands for secure and convenient electronic..."

...provides card issuers with a value-added service that is intuitive, quick, secure, and easily branded."

TSYS' SureTransact(SM) family of products includes:

- \* SureService(SM) -- Internet customer service
- \* SureApp(SM) -- Internet real-time credit decisioning and application

- \* SureMessage(SM) -- Packet-based messaging for TSYS processing systems

- \* SureRemit(SM) -- Internet bill presentment and payment

- \* SureWallet(SM) -- Internet issuer-branded digital wallets

TSYS has joined Globeset's channel partner program and will distribute the Globeset BankTone(TM) Wallet worldwide to financial institutions. The server-based Wallet allows issuers to certify their creditworthy customers prior to each transaction, and safely store critical consumer data, such as card numbers and passwords behind ultra-secure server-side firewalls. Merchants, issuers and backing financial institutions all benefit from increased security, a reduction in fraudulent use, and reduced transaction abandonment.

"TSYS is one of the world's largest and most influential data management and transaction processors. We are extremely pleased to win TSYS' endorsement through the integration of Globeset Wallet technology into the TSYS e-commerce product..."

...information, visit us on the Web at: <http://www.globeset.com> /

About Total System Services

TSYS is one of the world's leading processors of data and transactions for domestic and international issuers of credit, debit, commercial and private-label cards. TSYS' sophisticated systems offer online accounting, data processing, electronic commerce services, portfolio management, account acquisition, credit evaluation, risk management and customer service. Through our family of companies, TSYS services the entire lifecycle...

**SIC Codes:**

7372 (Prepackaged software); 7374 (Data processing and preparation

**NAICS Codes:**

51121 (Software Publishers); 51421 (Data Processing Services

17/3,K/3 (Item 1 from file: 636)

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04491514 Supplier Number: 57647728 (USE FORMAT 7 FOR FULLTEXT)

**DURLACHER: Mobile operators poised to revolutionise In Internet.**

M2 Presswire , p NA

Nov 19 , 1999

Language: English Record Type: Fulltext

Document Type: Magazine/Journal ; Trade

Word Count: 870

...Veerse, Manager of Durlacher Research's European operation, demonstrates that mobile operators are ideally positioned to lead the m-commerce market. They possess comprehensive customer data including demographics, calling patterns and a detailed customer profile as well as an existing billing relationship. Durlacher's report examines how, in the near future...operators will move decisively into the banking sector either by acquiring banks or banking licences in 2001. Mobile phones incorporate ideal features for ensuring electronic payment and Durlacher's report predicts that it will, in effect, become the "electronic wallet" in Europe.

\* The initial killer application for mobile internet services will be email, based on the current success of SMS (Short Message Service), which is necessary to pave the way for more transactional m-commerce services. Instant messaging from the mobile phone will start to substitute email as GPRS (General Packet Radio Services) arrives. Unified messaging will become mainstream technology by 2001.

\* Smartphones will become the standard mobile device from 2002 onwards. These devices will include...CONTACT: Falk Miller-Veerse Tel: +49 228-9696 1723 e-mail: falk@durlacher.com

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17/3,K/4 (Item 1 from file: 16)

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07039902 Supplier Number: 57162618 (USE FORMAT 7 FOR FULLTEXT)

**AMERICAN COMPANIES IN JAPAN.**

Japan-U.S. Business Report , n 357 , p NA

June , 1999

Language: English Record Type: Fulltext

Document Type: Newsletter ; Trade

Word Count: 16446

...are touting its bandwidth and flexibility, saying that the combination makes the new line ideal not only for such traditional mainframe jobs like running corporate data bases and on-line transaction processing but also for In-ternet-based businesses. IBM JAPAN LTD.'s main-frame marketing unit is pitching the S...a year after forming a Japanese subsidiary, M-SYSTEMS FLASH DISK PIONEERS LTD. has won a breakthrough order for its FFD (fast flash disk) data storage device from a communications carrier de-scribed only as a first-tier company. The order, to be de-livered over three years, consists of...

...New-ark, California-based M-Systems attributed the win, which could be worth close to \$3 million, in large part to the reliability of its data storage device compared with traditional hard disks and, as a result, the lower costs of ownership.

Demonstrating its newfound commitment to serve the storage requirements...

...boost sales of its proprietary Unix servers in Japan. Its subsidiary has contracted with SONY MARKETING (JAPAN) INC. to sell SONY CORP.'s digital data tape drives and automated tape libraries to television broadcasters and computer graphics busi-nesses, the company's mainstay customers. Included in the deal are Sony...what it calls Intelligent Vision Network products. The San Luis Obispo, California start-up develops intelligent video process-ing and compression technologies for distributed data networks. Its IVN products have potential for extend-ing, enhancing or replacing human vision for image un-derstanding in a variety of both simple and...is based on the PowerPC architecture. However, IBM is incorporating enhancements specifically sought by Nintendo, including extra on-chip memory and more effi-cient data management between the processor and the game system's graphics chip. Nintendo expects to launch its code-named Dolphin console in time for the 2000...Japan (see Japan-U.S. Business Report No. 346, July 1998, p. 19).

Bedford, Massachusetts-based AWARE, INC., a big player in the high-speed data transmission xDSL (digi-tal subscriber line) business, has licensed its G.992.2 standards-based G.Lite technology and software to NEC CORP. The semiconductor...

...tober, the part will be marketed worldwide to commu-nications and networking system providers and to mo-dem manufacturers. Aware's G.Lite technology delivers data transmission speeds of up to 1.5 megabits per sec-ond downstream and as fast as 512 kilobits per second upstream at distances up to 24,000 feet. The main ad-vantage of DSL technology is that it enables broadband data transmission over existing telephone lines without interrupting regular phone service.

In a product release that should help move the con-cept of home networking in...City, California has opened an office in Tokyo to promote its ECnet supply chain manage-ment service. ECnet, which melds seamlessly with tra-ditional electronic data interchange systems, handles price checks, order placement, shipping and billing through the Internet. With installation costs as low as \$5,000 and monthly fees of...

...COMPUTER CORP.'s subsidiary and KDD CORP. have reengineered the American

firm's MilliCent electronic commerce transaction settlement system to facilitate small purchases over the Internet. To address consumers' concerns about privacy and security, MilliCent uses a "digital wallet" system, which safely stores credit-card, bank account and other sensitive personal information on a secure server. The modified e-commerce payment system will be featured first on a 15-store Internet mall run by a KDD affiliate. It will be the first time MilliCent is commercially deployed.

A complementary Internet security program comes from VERISIGN, INC... Europe.

Through its subsidiary, APPLE COMPUTER, INC. localized the latest version of its intranet server suite, AppleShare IP 6.2. The package includes application and data base services as well as file, print and e-mail modules. It also offers much-improved performance over TCP/IP and mixed protocol networks. AppleShare...of its storage hardware and software down to midsized businesses that use IBM AS/400 systems. In

conjunction with EMC's TimeFinder and Symmetric Remote Data Facility, CopyPoint allows AS/400 systems to read off-site copies of production system data as if they were the originals, helping to ensure continuous computer services. EMC's subsidiary priced CopyPoint from \$54,700.

Challengers in the corporate data storage arena continue to emerge, such as VERITAS SOFTWARE CORP. Along with marketing partner TOKYO ELEC-TRON LTD., the Mountain View, California firm is of...

...SOFTWARE, INC. and HITACHI, LTD. They have agreed to jointly develop and market storage solutions that offer enterprise customers fast backup and high-level data-sharing solutions for heterogeneous environments.

These products, to be released throughout the year, will be marketed via each partner's distribution channels. Houston...

...No. 356, May 1999, p. 27).

Competition in this market segment is hot, however.

For instance, INFORMATICA CORP. is rolling out a pair of data warehouse products in partnership with MITSUBISHI ELECTRIC CORP. The new business allies will adapt for the local market the Palo Alto, California firm's PowerCenter - an enterprise data integration hub that enables large organizations to easily transform legacy, relational and enterprise resource planning data into reliable information for business analysis - and its PowerMart integrated tool suite for designing, deploying, managing and maintaining line-of-business data marts and analytic applications. MEL-CO then will bundle Informatica's products with its own DIAPRISM hardware/software data warehouse fast sorting and data base scanning technology. The English-language version of the package will be available in mid-September. A Japanese-language release will follow at an unspecified date.

To keep track of the vast number and variety of information stored in a data warehouse and temporary information created by data base and other applications, NCR CORP.'s local unit wrote Teradata MetaData Services.

MDS gathers, indexes and makes available the torrent of information tidbits...

...sell 1,000 MDS systems a year.

IBM JAPAN LTD. now is shipping a localized version of the latest release of the venerable DB2 data base.

DB2 Universal Database v6.1 offers new features to meet the rapidly changing needs of corporate customers: support for Java, connectivity with ERP...

...that costs \$860 and up and an enterprise package priced from \$10,700.

Through its subsidiary, SYBASE, INC. has released an update of its relational data base management system, Sybase Adaptive Server IQ12. Priced from \$41,200 (a three-user license for Windows NT environments) to \$71,200 (a five...

...for Unix systems), the RDBMS has been thoroughly reworked with enterprise decision support in mind. The new package sports greatly increased scalability to backstop large data warehouses as well as big user populations.

Data base heavyweight ORACLE CORP. is not taking these developments lightly. Its subsidiary has introduced packages that keep the company's flagship Oracle8...

...intelligence front-end applications for Oracle8 and Oracle8i that are Internet-savvy and accessible to nontechnical users yet harness all the power of the underlying data base systems.

Developing and delivering business-knowledge solutions is the aim of a new three-year pact between DA-TAWARE TECHNOLOGIES, INC. and FUJITSU...

...and by developing a reseller network. The first module to be rolled out will be Knowledge Query Server Japan, which enables collaborative searches of data warehouses as well as searches of Internet-based resources. Fujitsu Business Systems also ...high-precision clock and timing engineering analysis package from AMHERST SYSTEMS ASSOCIATES, INC. The Amherst, Massachusetts firm's M1 Time-Interval Measurement Standard and Serial Data packages run on Windows-based PCs, yet they can conduct sophisticated analyses of factors that produce even tiny errors in the high-speed clock systems that are critical to modern computers and data communications systems.

ASA's products will be distributed and supported exclusively by TOYO CORP. It expects to sell between 100 and 200 copies of...

...by releasing an update in July. 1-2-3 2000 offers improved compatibility with Microsoft's Excel spreadsheet and Word word-processing programs, bigger data sheets and premade sheets for business applications.

The new program also is Internet-savvy, being able to upload and download data from the Web with just a few mouse clicks. As a

standalone product, 1-2-3 2000 will retail for \$165, but it is a...a mid-July introduction date.

Helping to fuel the rapid advances in Japan's mo-bile communications market, QUALCOMM INC. has delivered its high-speed packet data solution to manu-facturers of CDMA digital handsets. A complement to the company's MSM3000 baseband chipset, the MSM3000 system software enables suppliers to big...

...second without new or additional hardware. Before the end of this year, DDI and IDO (as it is generally known) expect to enable high-speed packet data for subscribers to their cdmaOne services.

#### TELECOMMUNICATIONS

Japan has a new facilities-based communications carrier, the eighth authorized by the Ministry of Posts and Telecommunications...

...technolo-gy underlying XePhion with Cisco's VoIP (voice over IP) and IP/TV know-how in order to deliver quality au-dio, video and

data

over fiber-optic networks to corpo-rate Japan. The new partners also intend to move into the technical training field by commercializing products that integrate...

...tie-up is equip-ment based on Cisco's MPLS (multiprotocol label switching) technology, which is optimized for the low-cost transmission of massive multimedia data files. The partnership extends beyond marketing hardware and related software to customizing high-throughput com-munications networks for clients and maintaining and managing these systems...

...s frame-relay services. These services are locally supported in close to 50 countries. ....On a differ-ent level, EQUANT, a major source of managed data network services for global businesses worldwide (see Japan-U.S. Business Report No. 353, February 1999, p. 29), has won a contract from TOMEN CORP. to supply data networking services in more than 24 countries. By July, frame-relay services will be available to support To-men's global e-mail and corporate...compres-sion technology for frame-relay networks.

Users of handheld or palm-size computing devices running the Windows CE operating system now can ac-cess data and information on corporate networks thanks to the CompactCard Ethernet 10 from the marketing unit of XIRCOM, INC. The first such product from the international...

...CE-based Com-pactCard, priced at \$170 or so, provides high-speed con-nections to 10-Mbps networks for e-mail access, Internet browsing and data synchronization.

Continuing a recent string of design wins in Japan, EXTENDED SYSTEMS, INC. has landed a contract worth more than \$2.5 million over the...

...volume order for the handheld computer from a convenience-store chain that plans to use it as an advanced point-of-sale product for better data management and increased efficiency.

The latest LUCENT TECHNOLOGIES INC. wire-less LAN product to be marketed in Japan by NCR CORP.'s subsidiary is the...

...Turbo. This \$800 system is being advertised as a two-in-one product.

For office settings, it has a high-speed mode that provides data transmission rates equivalent to those of wired Ethernet LANs. In standard mode, the Wave-LAN/ IEEE Turbo offers extended range, making it suitable for...

17/3,K/5 (Item 2 from file: 16)

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05293923 Supplier Number: 48061165 (USE FORMAT 7 FOR FULLTEXT)

### Getting SET

Jackson Higgins, Kelly

InternetWeek , p 83

Oct 20 , 1997

Language: English Record Type: Fulltext

Document Type: Newsletter ; Trade

Word Count: 2469

...for securing the transaction remain slim.

Sure, there are security protocols that encrypt pieces of a business transaction. Two that come to mind are RSA Data Security Inc.'s S/MIME (Secure Multipurpose Internet Mail Extensions) and Pretty Good Privacy Inc.'s PGP for disguising E-mail messages. Others include the...

...addressing it right now," says Mary Van Zandt, director of marketing for Sterling Software Inc. ([www.sterling.com](http://www.sterling.com)), Irving, Texas, one of the biggest electronic data interchange (EDI) software makers.

But don't blame SET. The new protocol was designed specifically for consumers who want to buy merchandise on the Internet...

...credit card is legit. Certificates last for about a year or two.

There are three main components in a SET transaction: The buyer's electronic "wallet," the merchant's server software and the credit card company's Internet payment gateway. Electronic wallet software runs on a client browser and holds the digital certificates, while the merchant server software runs on a Windows NT or Unix machine. The Internet gateway software is the credit card company's server, also typically an NT or Unix box.

Here's how a consumer would use SET to...transactions.

The problem is no one is sure which direction secure messaging will go. S/MIME was a shoo-in until S/MIME developer RSA Data Security initially refused to give up control of the spec. Now a new version of S/MIME, Version 3.0, is under discussion at the...

...key protocol in Templar, an Internet EDI product marketed by Premenos

Technology Corp. The company also plans to pack PGP into Templar.

S/MIME places data in an encrypted envelope for its journey over the Internet, and the data remains secure even after the transaction because S/MIME stores it in its encrypted format. "There are valid reasons to use S/MIME on mail messages," says Chrysler's Moskowitz. "It means you have secured

data in the long term."

Secured data is a big issue for the automobile industry, where industrial espionage is a reality and not just the stuff of hacker fantasies. That's why...

...remittances for the accounts receivable side of a transaction.

IPsec is also on the IETF standards track. Its job is to ensure privacy of the data and authenticity of every packet that goes over the wire, but not to authenticate the users. That's why IPsec likely will be implemented with protocols like S/MIME or...The bottom line is no one security protocol can do it all-not SET, SSL, S/MIME or IPsec. "There is a distinction between secure data and secure communications," says Chrysler's Moskowitz. "Down the road, you will need both. Those who do just one will be shooting themselves in the..."

...those categories, the only use you'll have for SET right now is for Christmas shopping. And remember, even with SET, nitty-gritty back-end data processing is executed on private networks.

- Authenticate in '98. Update SSL unless you and your trading partner are really tight and truly trust one another...

...run over EDI or E-mail-based messages. But don't forget that S/MIME and PGP rely on the client machine to disguise the data, so your end users have to know how to encrypt and decrypt. As a bonus, your data remains secured after the transaction because S/MIME stores data in an encrypted format.

- Keep an eye on the Big Three automakers. The auto industry's ANX project could propel the IPsec protocol into mainstream...

17/3,K/6 (Item 1 from file: 20)

Dialog Global Reporter

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08308985 (USE FORMAT 7 OR 9 FOR FULLTEXT)

DURLACHER: Mobile operators poised to revolutionise Internet

M2 PRESSWIRE

November 19, 1999

Journal Code: WMPR Language: English Record Type: FULLTEXT

Word Count: 862

(USE FORMAT 7 OR 9 FOR FULLTEXT)

...Veerse, Manager of Durlacher Research's European operation, demonstrates that mobile operators are ideally positioned to lead the m-commerce market. They possess comprehensive customer data including demographics, calling patterns and a detailed customer profile as well as an existing billing relationship. Durlacher's report examines how, in the near future

...operators will move decisively into the banking sector either by acquiring banks or banking licences in 2001. Mobile phones incorporate ideal features for ensuring electronic payment and Durlacher's report predicts that it will, in effect, become the "electronic wallet" in Europe.

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\* Smartphones will become the standard mobile device from 2002 onwards. These devices will include...

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falk@durlacher.com

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? ts17/full/5

17/9/5 (Item 2 from file: 16)

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05293923 Supplier Number: 48061165 (THIS IS THE FULLTEXT)

### Getting SET

Jackson Higgins, Kelly

InternetWeek , p 83

Oct 20 , 1997

ISSN: 1096-9969

Language: English Record Type: Fulltext

Document Type: Newsletter ; Trade

Word Count: 2469

Text:

Ready, SET, charge it? Not quite. The industry is poised to make credit card transactions safe from cyberthieves, but securing business-to-business transactions over the Internet is still several months off.

As the industry vies to develop standards that make the Internet safer for commerce, much of the focus is on the consumer-oriented Secure Electronic Transaction (SET) protocol.

SET, which encrypts and authenticates credit card information over the Internet, may be the closest the industry's come to secure electronic commerce since the dedicated line. And SET is backed by the heavyweights of banking, finance and retailing. American Express Co., Chase Manhattan Bank, Mellon Bank Corp., Wal-Mart and SET's developers, MasterCard and Visa, are all running SET pilots that go live in early 1998.

This is great news for consumers and businesses looking to jump into Web-based retailing. But if you want to pay your supplier for those widgets, or negotiate a contract over the Internet, the options for securing the transaction remain slim.

Sure, there are security protocols that encrypt pieces of a business transaction. Two that come to mind are RSA Data Security Inc.'s S/MIME (Secure Multipurpose Internet Mail Extensions) and Pretty Good Privacy Inc.'s PGP for disguising E-mail messages. Others include the Internet Engineering Task Force's IPsec protocol for protecting the network link itself and the Secure Sockets Layer (SSL) protocol built into Web browser and server software that encrypts Web sessions. The problem is, none of these protocols were developed to support business-to-business transactions.

"There just aren't enough tools in the toolbox," says Robert Moskowitz, a member of the Internet Architecture Board and a software specialist for Chrysler Corp. ([www.chrysler.com](http://www.chrysler.com)), the \$3.5 billion automaker based in Dearborn, Mich.

#### Insecure Business

Even E-commerce software vendors are frustrated with the lack of protocols for securing core business on the Internet. "What happened to the large-dollar transaction? There has to be a business transaction protocol, but there's no standards body addressing it right now," says Mary Van Zandt, director of marketing for Sterling Software Inc. ([www.sterling.com](http://www.sterling.com)), Irving, Texas, one of the biggest electronic data interchange (EDI) software makers.

But don't blame SET. The new protocol was designed specifically for consumers who want to buy merchandise on the Internet with their credit cards-no more, no less. Even so, SET may eventually be expanded to accommodate corporate credit card transactions, so the employee in purchasing can buy pencils and maintenance supplies with a corporate card, too.

There's also talk of SET being built into standard browser software, so configuring your business for SET may eventually be as easy as upgrading your browser.

Even after a few false starts, slow-moving software development and interoperability troubles, SET already has done what no other security technology achieved before-it's given encryption and authentication a commercial spin.

One of the more attractive features of a SET transaction is that the merchant doesn't always get the cardholder's credit card number, unlike SSL, the encryption method developed by Netscape. Instead, the cardholder presents the retailer with a Visa digital certificate when ready to charge an item. Once SET catches on, cardholders will have multiple digital certificates-one for each card they hold, be it a Visa, MasterCard or American Express.

Of course, there is a way for a merchant to request that the credit card account information be sent back after the initial transaction by the buyer. That happens outside of the SET process.

"Merchants are used to having that information for chargebacks and retrievals," says Tom Butler, first vice president for product development at Pittsburgh-based Mellon Bank's network services division ([www.mellon.com](http://www.mellon.com)). It's up to the traditional credit card authorization service, such as Global Payment Systems ([www.globalpayment.com](http://www.globalpayment.com)), Atlanta, whether to send that information back to the merchant after the credit check, he says.

Obtaining a digital certificate for a personal or corporate credit card will be fairly easy. The cardholder simply fills out a form at either the bank's Web site or at a so-called trusted third party's Web site, like GTE Corp.'s CyberTrust service ([www.cybertrust.gte.com](http://www.cybertrust.gte.com)), which then issues a SET-compliant digital certificate that confirms the credit card is legit. Certificates last for about a year or two.

There are three main components in a SET transaction: The buyer's electronic "wallet," the merchant's server software and the credit card company's Internet payment gateway. Electronic wallet software runs on a client browser and holds the digital certificates, while the merchant server software runs on a Windows NT or Unix machine. The Internet gateway software is the credit card company's server, also typically an NT or Unix box.

Here's how a consumer would use SET to charge that nifty new canoe from L.L. Bean on a Visa card. First, he digs his Visa digital certificate out of his electronic wallet, which runs on his browser in a Visa card icon. After the cardholder clicks on the payment button, SET kicks in. The cardholder's software generates two keys-one that encrypts an order and another that encrypts credit card payment information-both are sent to L.L. Bean's merchant server.

L.L. Bean decrypts the order information, which is wrapped up with its public key and digitally "signed" by the buyer. From there, the merchant server sends the digital certificate containing the credit card information to Visa's Internet gateway, which decrypts that account information. Now the traditional credit card authorization process takes place. That's done off the Internet over leased lines-mostly because that's the way it's always been done-in a highly secure fashion. Today, the entire SET process, plus the back-end credit card authorization, takes about 15 to 20 seconds.

"We are looking to reduce this as we get better at it," says Andrew Bartels, vice president of encrypted payments for New York-based American

Express, which is running its own homegrown SET Internet gateway software in a pilot with Wal-Mart ([www.wal-mart.com](http://www.wal-mart.com)), Bentonville, Ark.

The reason SET is so slow today is that the software has dozens of encryption calculations to run through, says Bartels. "As SET gets more specialized and standardized, a lot of calculations will be off-loaded onto specialized computation devices to speed up the process," he says.

#### SET Sale

And SET won't just be for credit cards anymore, either. Look for Version 2 of SET—expected next year—to include debit card processing so consumers can make cash payments on the Internet.

SET's authentication feature may be its biggest selling point over the status quo, Netscape's SSL. Today, SSL only encrypts a communications session. "With SSL, both ends may know they are talking to each other, but if there's a dispute, there's no way for a merchant to prove that he's truly who he says he is," says David Solo, director of technology for network-centric solutions at BBN Planet, now a division of GTE Corp.

SSL wasn't designed specifically for financial transactions, either. It was more a generic protocol for securing a session, for example, to fill out a form online, says Steve Crocker, CTO for CyberCash Inc. ([www.cybercash.com](http://www.cybercash.com)), which plans to release SET-based electronic wallet software next year.

Not that SET is perfect. It authenticates the credit card account, not the person charging merchandise with it, which could prove to be a problem for corporate credit card purchases.

"SET digitally identifies the card, not the user. That's the way credit card companies have always done it, where they are not taking responsibility for you using your card, but for the account itself," says Andrew Herbert, chief technology officer for APM Ltd., a Cambridge, England, consultancy. "That won't work in the corporate purchasing model. You must know who is using the card because there's a relationship between cards and people and budgets."

In many minds, SET still has a long way to go. The early pilots have highlighted other shortcomings of the SET spec, namely that it tends to be too general and leaves much of the interpretation up to the vendor. That's caused interoperability troubles among SET software products, and has slowed the adoption of SET among financial institutions. "There is some frustration among those involved with SET that it's taking longer to get in place than was expected," says American Express' Bartels.

That's not surprising given SET's roots as a peace treaty that came out of rival efforts by MasterCard/Netscape and Visa/Microsoft.

Once the technical kinks are resolved, the big challenge for SET may be dispelling the bugaboo of the Internet's inherently unsafe image. Most "netizens" still consider E-commerce no more secure than giving a telemarketer a credit card number over the phone—and about 70 percent of Internet users surveyed by Global Research Inc. recently said just that.

#### Do You Mime?

So while all eyes may be on SET, S/MIME, PGP and IPsec are the only protocols today that can secure business transactions.

The problem is no one is sure which direction secure messaging will go. S/MIME was a shoo-in until S/MIME developer RSA Data Security

initially refused to give up control of the spec. Now a new version of S/MIME, Version 3.0, is under discussion at the IETF. PGP, traditionally more of a personal security protocol, has gone more corporate and is also on the IETF standards track.

S/MIME, so far, has the commercial edge-it's already tucked into Netscape's browser, for instance, and Microsoft, Lotus and Novell all have plans for S/MIME messaging. S/MIME is also the key protocol in Templar, an Internet EDI product marketed by Premenos Technology Corp. The company also plans to pack PGP into Templar.

#### S/MIME places

data in an encrypted envelope for its journey over the Internet, and the data remains secure even after the transaction because S/MIME stores it in its encrypted format. "There are valid reasons to use S/MIME on mail messages," says Chrysler's Moskowitz. "It means you have secured data in the long term."

Secured data is a big issue for the automobile industry, where industrial espionage is a reality and not just the stuff of hacker fantasies. That's why S/MIME may eventually be included in the auto industry's planned Automotive Exchange Network (ANX) pilot, an Internet-based extranet of sorts for the Big Three, their suppliers, competitors and anyone and everyone who sells anything related to a car.

The banking and financial community is also starting to take a serious look at S/MIME. Chase Manhattan runs Templar for its Internet EDI service, which lets its commercial customers-like petroleum giant Ultramar Diamond Shamrock Corp. ([www.diasham.com](http://www.diasham.com)), San Antonio-pay its suppliers over the Internet.

"We provide a secure gateway that's an alternative to an EDI VAN or private direct link," says Jeanine Khoury, a vice president at Chase Manhattan, which has \$352 billion in assets. Chase plans to extend the S/MIME service to non-EDI type transactions, too, and hopes to use it for letters of credit and remittances for the accounts receivable side of a transaction.

IPsec is also on the IETF standards track. Its job is to ensure privacy of the data and authenticity of every packet that goes over the wire, but not to authenticate the users. That's why IPsec likely will be implemented with protocols like S/MIME or SET.

"How do I know I can trust the person at the other end? Establishing trust is the key piece for business-to-business and extranet transactions," says Dave Dawson, general manager of Ascend Communications Inc.'s network security business unit, which sells IPsec-based firewall software called SecureConnect.

IPsec is being added to other firewalls, too, like Gauntlet from Trusted Information Systems and in virtual private network software, like TimeStep Corp.'s Permit for securing a VPN over the Internet. While the standard is still not complete-in these first test versions, you have to load keys manually from diskettes for each transmission-it may be a core element of early business-to-business transactions on the Internet.

IPsec will surely get its chance to shine during the ANX project, which is testing the new protocol. Many believe IPsec is ideal for the auto

industry because it can support any higher-level protocols above it, including legacy protocols like TN3270 that are common in the auto industry.

But IPsec is just one level of security for businesses that are serious about E-commerce. The trading partners on ANX in the future will be able to mix and match other security protocols, like S/MIME, or even SET for corporate credit card purchases. Securing the pipe was just the first step.

The bottom line is no one security protocol can do it all—not SET, SSL, S/MIME or IPsec. "There is a distinction between secure data and secure communications," says Chrysler's Moskowitz. "Down the road, you will need both. Those who do just one will be shooting themselves in the foot."

So, while the Internet isn't fully secure for business transactions, it's safer than it's ever been. SET and the other standards are trying to provide the security blanket Internet customers long for.

Kelly Jackson Higgins is a freelance computer journalist based in Stanardsville, Va.

#### SIDE BAR: TECHtips

##### Secure Electronic Transactions

Don't be fooled by all the hype about SET—there is no such thing as airtight security. But if you pick the right protocol for the right job, you can do business over the Internet with some peace of mind. Here are a few pointers:

- Understand SET's limitations. The only business application for SET is for Web merchants, banks and credit card companies such as Visa, MasterCard and American Express. Unless you fall into those categories, the only use you'll have for SET right now is for Christmas shopping. And remember, even with SET, nitty-gritty back-end data processing is executed on private networks.

- Authenticate in '98. Update SSL unless you and your trading partner are really tight and truly trust one another. Without authentication, you really can't be sure you can prove that your transaction was what it was supposed to be. Encryption is mandatory now for sensitive transactions and communications. So is verifying identities.

- It might be time for S/MIME. Or PGP (Pretty Good Privacy) if your business transactions run over EDI or E-mail-based messages. But don't forget that S/MIME and PGP rely on the client machine to disguise the data, so your end users have to know how to encrypt and decrypt. As a bonus, your data remains secured after the transaction because S/MIME stores data in an encrypted format.

- Keep an eye on the Big Three automakers. The auto industry's ANX project could propel the IPsec protocol into mainstream business. Run IPsec if you need to encrypt those virtual private network tunnels. Besides, what's good for General Motors', Ford's and Chrysler's routers and remote access devices just might make for some good commercial IPsec implementations.

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**Internet billing starts ticking**

Barbetta, Frank

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**Abstract:**

Today's Internet flat-fee pricing structure gives Web surfers unlimited access. This unique circumstance in uncomplicated bills that bear little resemblance to the monthly bills that local and long-distance carriers churn out like clockwork, specified down to pennies and fractions of minutes. The inadequacy was based on limited programming resources, namely money and people. However, more significantly, the Internet protocol packet communications infrastructure did a poor job of tracking and generating the appropriate data to accurately measure usage for customer billing. These limitations are slowly disappearing, giving way to usage-based billing. For more than a year, economists and some analysts have been predicting the change as an economic necessity. Billing software is now handling - or expected to handle - pricing for many services based on users' payment-method profiles or corporate-established preferences, priorities and privileges.

**Text:**

Today's Internet flat-fee pricing structure gives Web surfers unlimited access. This unique circumstance results in uncomplicated bills that bear little resemblance to the monthly bills that local and long-distance carriers churn out like clockwork, specified down to pennies and fractions of minutes.

The differences were initially sound in theory. Strategic considerations dictated that carriers launch on-line offerings as fast as possible without waiting for billing software to catch up. Complex billing was unable to handle "pay as you go" service introductions on the Internet.

The inadequacy was based partly on limited programming resources, namely money and people. Yet more significantly, the Internet protocol (IP) packet communications infrastructure did a poor job of tracking and generating the appropriate data to accurately measure usage for customer billing.

These limitations are slowly disappearing, giving way to usage-based billing. For more than a year, economists and some analysts have been predicting the change as an economic necessity.

This is because carriers Internet service providers and those acting as both are increasingly using or talking about IP telephony for voice and fax. This interest is inspiring software and hardware suppliers to develop billing solutions.

IP-based telephony is a prime example of how the excitement behind usage-based service pricing can be generated at the same time as proper billing mechanisms-in this instance for call duration. Indeed usage-based services and robust billing support are expected to continue as a trend trend in parallel. Billing software is now handling-or is expected to handle-pricing for many services based on users' payment-method profiles or

corporate-established preferences, priorities and privileges. Among those services are least-cost routing, time of day routing, dynamic bandwidth allocation, volume discount rates, callback, security enhancements,

Web hosting, e-mail, chat lines, whiteboards, videoconferencing, work group collaboration and multimedia sessions, software applications distribution, applications rental and classes of service quality.

Ultimately, the sweet spot for many carriers Web-enabled presentation and electronic payment of telephone bills--will also embrace one-to-one marketing of pay-per-use and subscription services, including on-the-spot discounts. Users may sign on for services via Internet sites already handling bill presentation and payment; system integration would allow links back to operations support systems (OSSs for provisioning and subsequent billing).

Although such sophistication remains a long-term prospect, the head of CyberCash's PayNow secure electronic check service is among those who see Web-enabled bill presentation and payment leading to real time interaction marketing, provisioning and billing of other offerings and services. "There is a vast cross-selling opportunity for carriers" says Richard Crone, vice president and general manager of CyberCash's PayNow secure electronic check service. "The bill is the brand. IP is like the pay phone of the future in terms of pay-per-use services, but it is not limited to voice calls."

#### Reality hits the Internet

Some question whether such intricate billing is needed and note the irony that flat-rate billing is the driving force behind the explosion in IP-based services.

"If we start to meter every packet, do we lose something with respect to the Internet? Do we lose a little bit of the initial perks behind the Internet? Or can the new services support new markets that can cover costs and produce profit from a network's expensive delivery and trunking?" asks Larry Greenberg, vice president and chief information officer at Princeton TeleCom Corp., a transaction processing service provider and consultancy in Princeton, NJ.

Yet Greenberg acknowledges that flat-rate billing no longer works with large corporate users and telcos seem eager to use their billing standbys with a new medium.

"Do service providers want to provide telco-grade billing? I think the answer is 'Yes, we do.' In my view, telco-grade implies quality of service and its link to billing--the ability to monitor and charge premiums for quality," says Shoshana Loeb, executive director of Internet and information technologies research at Bellcore. "Yet it is an open issue whether people will demand this."

Many technical challenges must be tackled first. Foremost are extrapolating and scrubbing down traffic information from routers and switches and

matching that against customer account data for bills. This involves tracking packet volumes, counting bits or bytes and logging origination and destination IP addresses. The distributed architecture of the Internet's routing and switching infrastructure also presents a

challenge.

"There is no one switch that knows about calls," says Loeb. "The information has to be assembled. In the future, more support will have to be given to the Internet end points to gather data." This will lead to more complicated issues and may change the general conception of billing. "Instead of back-office billing, this will have to be distributed up-front and associated with real-time customer interaction for per-use and subscription services. We will need more dynamic billing on the fly," she says.

Also to be tackled are systems integration and applications interface tasks that exchange information between incompatible and sometimes proprietary software in routers and switches, servers, gateways, security systems, billing systems platforms and computer databases.

(Photograph Omitted)

Historically, carrier staffs have written their own instruction code for such OSS functions as operations, administration, maintenance and provisioning (OAM&P). Services such as voice, ISDN, frame relay and asynchronous transfer mode may already have distinct OSSs in place.

Further, most carriers have homegrown or thirdparty legacy billing systems, and workers from both camps don't know enough about resident code to incorporate or consider IP billing initiatives.

"At times, you have to go on bended knee to the glass iron house of mainframes to make changes, although it can be done rather swiftly and the carriers are now rushing to catch up," says Crone. "In reality, almost all Internet service billing is currently done on homegrown systems. It's the Wild West out there, and few vendors have really established themselves," says Hilary Mine, service vice president at Probe Research. "The homegrown systems take advantage of router or [remote access server] operating system software to collect data and then manipulate it for billing purposes."

#### Players take different tacks

Nevertheless, IP software and hardware vendors are working on billing support.

Early this year, Hypercom Network Systems started marketing high-density gateway products and a suite of related IP telephony features, including central office and point-of-presence solutions that stream call records to external systems for accounting and billing.

"IP billing may be complex itself, but no more than current systems," says

Jon Young, vice president of product development at Hypercom. "Trunking distances are a bit of an issue regarding end points, bandwidth and routing, but quality of service and differentiators are the main factors here. Once the carriers decide what they want to do, that is the market driver, and the billing software will do what they want."

One company is already touting a new model based on the payload to be sent over the Internet.

Whether network use is light or heavy is the discerning factor, and counting bytes has a direct correlation, says John Stewart, director of systems engineering at Digital Island, a carrier and IP service provider with operations in Hawaii. "Use more, pay more, although customers can buy in bulk, too," he says.

Mine's sampling outlines a variety of solutions. She puts them in three categories:

Offerings specific to network equipment but evolving into end-to-end management.

Outright billing, accounting and customer care.

Bandwidth management-often hardware-based and some ostensibly able to differentiate usage by application.

Vendor support is needed to maintain complex billing, while systems integration is often recommended to link the various offerings.

Pre-packaged solutions fill the gap

Many vendors believe about 75% of the cost for IP billing systems can be covered right out of the box, and the rest would be for systems integration. Some suppliers suggest that a middle ground exists by providing a set of core products to service providers while supporting applications program interfaces to their OAM&P legacies and other OSS installations. Service providers have been building their own solutions and, to a certain extent, may want to leverage that work, but they are now looking to buy pre-packaged solutions.

Delta Three, an RSL Communications subsidiary and an

Internet

telephony service provider, recently began deploying Ericsson's Internet Protocol Telephony Solution for Carriers, an NT platform for IP telephony with an operations and maintenance facility that can update and control multiple gateways for phone-to-phone, faxto-fax and PC-to-phone services.

The platforms support real-time billing with fraud prevention and call-duration advice with integrated voice response software, as well as support for least cost routing and dynamic route allocation.

"We are integrating our call detail records with the Ericsson system and want to collect as much data as possible above what is normally associated with standard telephony," says Noam Bardine, Delta Three vice president of technology and operations. "In IP services, more information is expected to be needed in the future. We can define quality of service to customers; work out top-dollar, tollgrade terms, specific types of codecs and amount of bandwidth; track which network the traffic goes over; and match any of this to [call detail records] with billing."

(Photograph Omitted)

Captioned as: Young

(Chart Omitted)

Captioned as: FIGURE 1

Cisco Systems' effort to address new IP markets such as telephony and multimedia also underscores suppliers' aims to coordinate billing solutions. A late April agreement with Hewlett-Packard Co. debuted the Internet Usage Platform, which highlights billing and analysis solutions, with Cap Gemini acting as prime reseller and systems integrator.

MCI will be the first carrier to evaluate and test the platform. Although MCI has not elaborated, a company spokesman said the carrier plans to start testing usagebased billing.

"MCI is not certain of the production implications, but every carrier we have talked to recognizes that the ability to differentiate tiered services, based on a 'pay by the drink' model, is significant," says Cisco's John Moore, global alliance manager. Cisco sees usage billing as a key enabler behind rich portfolios of new service offerings.

In the Cisco/HP arrangements, NetFlow software resident in Cisco 7000 and Catalyst 5000 systems generates IP traffic details to FlowCollector servers (Figure 1). The data is then aggregated and correlated to user account information by HP's Smart Internet Usage systems-PA/RISC-based 9000s running HP's UX version of Unix-which are integrated with Cisco equipment and software. The subscriber usage data comes from across IP network operators' infrastructure.

"The greatest challenge in IP usage billing is metering every flow and looking for the billable value add in the flow. There is lots of information," says Moore. "How often the data is collected is up to the service provider to fine-tune. It can be every five minutes to every hour. Updates can be hourly or daily That depends on the service provider."

These lag times are considered near real-time, but the more pertinent real-time rating and billing of subscribers' network resources and IP service usage is left to partners' external software. Information is structured into an extensible Internet Data Record, which Moore says the two companies have developed and proposed as an open standard for

industry acceptance. The IDR-formatted information is fed into billing applications, starting with Cupertino, Calif.-based Portal Software's Infranet-designed specifically for the Internet and able to register, track, manage and bill subscribers (Figure 2). It runs on HP's UX, Sun's Solaris and Windows NT.

Because billing is a prime ingredient, Cisco and HP are also working out a similar deal with Kenan Systems, a Cambridge, Mass., supplier of Arbor Internet rating billing software for Unix-variation platforms such as Digital Equipment Corp., HP, IBM and Sun.

(Chart Omitted)

Captioned as: FIGURE 2

Separately, a few years ago Cisco made an equity investment in Solect Technology of Ottawa to support its Sun Solaris-based Internet Administration Frame rating and billing software. "Cisco takes many equity positions with the intention of developing markets," says Moore. "But in the big picture, we believe IP telephony is one of the key markets that will shape the future." Portal's target markets include Internet access businesses, next generation IP-based services such as Internet telephony and virtual private networks, and other consumer and business services such as content management, Web hosting, on-line gaming and entertainment.

Portal's steps into Internet telephony include previous teamwork with Cisco on carrier-class voice systems, a research and development alliance with IP voice software and gateway supplier VocalTec Communications Ltd., and an OEM agreement with SkyWave Inc., a developer of gateways and network management solutions for Internet telephony service providers.

The company's billing software is deployed primarily in two modes over the Internet:

First, it tracks log-ins, monitor infrastructure usage and match data to customer profiles to market discount offerings (such as U S West).

Second, it outright sells content, says Bassam Kahn, Infranet principal

product manager.

The latter includes National Westminster Bank, VerSign and ICL GamesZone, which charge for financial reports, security authentication digital certificates and game time, respectively. Other customers include Grolier On-line, France Telecom and Australia's OzEmail.

Work with Cisco and HP is strategic for billing businesses for Internet usage such as bandwidth capacity and Web hosting by

megabytes used. IP telephony is a new market opportunity represented by more than 40 gateway suppliers and emerging gatekeepers that authorize and authenticate users by personal identification numbers, translate phone numbers to IP addresses and keep call detail records.

Kenan added real-time usage rating (vs. the previous one- to 24-hour lag time), as well as Web tool kits and interfaces for customer access to billing records, to its core Arbor BP product to comprise the new Arbor/Internet version, introduced in late May, says Paul Varley, product manager.

This was part of a broad series of announcements, including a new Internet Business Unit under Director Tom Gramaglia and teaming relationships with American Internet Corp., NetCentric and Software.com on their network access management, IP fax, and carrierclass enhanced messaging server products.

In its announcements, Kenan pressed many of the market hot buttons for fee-based, usage-based and event-based pricing for emerging services, although officials said subscription-based pricing for standard services such as basic Internet access would remain. Among new services were IP telephony voice and fax, streaming audio/video and enhanced messaging. It touted customers' ability to bill for "complex product packages that combine rate plans, recurring and non-recurring charges with special discounts, credits and promotions for a single Internet service or across multiple services."

Kenan has more than 30 partners for its Arbor products, including Oracle, Sybase, Andersen Consulting, EDS, Ericsson, Price Waterhouse and Siemens, and the company lists common customers such as @Home Network, AT&T World.net, British Telecom, France Telecom, GTE Internetworking and WorldCom/UUNet.

From complexity, simplicity

Development efforts with Cisco as well as with Ascend's Cascade are aimed at refining and simplifying the IP data extraction from network equipment.

"The challenge for router and switching vendors is not necessarily one of compatibility with billing systems, but that their systems produce so much data that the level of granularity is too fine," says Kenan's Varley. "They log gigabytes of data on per-packet levels and it is often too fine to be useful for rating and billing."

(Table Omitted)

Captioned as: SELECTED MANAGEMENT SOLUTIONS FOR ISPS

Likewise, Felix Veski, vice president of marketing at Solect, outlines two issues in dealing with the mounds of data produced by network systems: Matching the IP address received with a customer account. Dealing with the

volume of information and aggregating it.

Solect also has relationships with the likes of Sun (including JavaSoft-related work), Netscape, Oracle, Nokia, Alcatel, Siemens and Software.com. Solect has about 50 installations, and the GlobalOne partnership among Sprint, Deutsche Telekom and France Telecom is a noteworthy reseller.

Veski sees Solect's billing market addressing IP connections, content and electronic commerce.

For Solect and possibly other similar custom contracts, Bellcore is planning an international carrierclass rating engine to securely deliver billing services over the Internet. To be integrated into Solect's IAF rating engine, it will support customized bundling and discounting of IP services.

"Analogous to experience with Java, a new next generation language deals with dynamic rulesbased rating as opposed to hardwired, table-driven code," says Veski. "That gives service providers flexibility with rate plans."

At the same time, Bellcore is preparing to unveil IP voice software products later this year for carrier class quality of service. Written with Java applets and CORBA middleware, the Intelligent Gateway Call Server will run under distributed Unix and NT platform environments, says Jac Simensen, vice president and general manager of Bellcore's Soliant Internet Systems Unit.

The IGCS product is expected to handle automated message accounting, management of call setup/ state/tear-down functions, open API software development and bridging the public switched network and Internet via SS7 and Class 4/5 switch emulation.

Elements of the product may appear as components in Sprint's recently unveiled Integrated On-Demand Network. i.e,

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